# Central Station Main Works

## Ongoing Groundwater Monitoring (October 2019 to March 2020) Report

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## Glossary of Terms and Abbreviations

| Abbreviation | Description |
|---|---|
| AGJV | Aurecon & GHD Design Joint Venture |
| ADWG | Australian Drinking Water Guidelines |
| AHD | Australian Height Datum |
| BOD | Biological Oxygen Demand |
| BTEX | Benzene, Toluene, Ethylbenzene and Xylene |
| CBD | Central Business District |
| CGWMP | Construction Groundwater Monitoring Plan |
| CSM | Central Station Main Works |
| COPC | Contaminants of Potential Concern |
| DO | Dissolved Oxygen |
| EC | Electrical Conductivity |
| GILs | Groundwater Investigation Levels |
| LOR | Laing O'Rouke |
| NATA | National Association of Testing Authorities |
| NEPC | National Environment Protection Council |
| NHMRC | National Health and Medical Research Council |
| NRAR | Natural Resources Access Regulator |
| OCP | Organochlorine Pesticides |
| OPP | Organophosphorus Pesticides |
| PCB | Polychlorinated Biphenyl |
| PAH | Polycyclic Aromatic Hydrocarbons |
| QA/QC | Quality Assurance/Quality Control |
| RSA | Rail Services Australia |
| RPD | Relative percentage difference |
| SWL | Standing Water Level |
| TRH | Total Recoverable Hydrocarbons |

# 1 Introduction

AGJV Pty Ltd (AGJV) was commissioned by Laing O'Rourke (LOR) to undertake a groundwater monitoring program for selected groundwater wells at Central Station, as part of the Sydney Metro Central Station Main (CSM) works project.

LOR has identified three separate project work areas for the CSM project, these include:

- The Metro Station Box works
- The Central Walk and Eastern Entrance
- The Sydney Yard project access area

The approximate boundaries of the CSM project areas are presented in **Figure 1, Appendix A.**

A construction groundwater management plan (CGWMP - (LOR, Nov 2018)) has been prepared for the CSM project and approved by the Natural Resources Access Regulator (NRAR). The CGWMP includes a groundwater baseline monitoring program to establish the pre-construction groundwater conditions. The groundwater monitoring requirements are detailed in Section 10 of the CGWMP. Section 10 of the CGWMP also requires that the groundwater monitoring program be reviewed and amended on an annual basis to ensure it remains consistent with project priorities.

The groundwater baseline monitoring program commenced in September 2018 and monitoring has continued on a monthly basis until present. Reports were prepared for each six-month monitoring period, the first monitoring period (September 2018 to February 2019, detailed in **Section 2.1**) and the second monitoring period (March to September 2019). Section 7.4 of the CGWMP required that the first six months of monitoring characterise the baseline groundwater conditions, on which the construction works will be compared. For wells that were installed or replaced following the initial six months of monitoring, the initial baseline monitoring period is considered to commence following their installation, as discussed in Section 2 and presented in **Table B1, Appendix B**.

Throughout the course of the monitoring program a number of monitoring bores have been destroyed, while others have been installed during and after the baseline monitoring period.

This report has been prepared to document the third groundwater monitoring period, undertaken between October 2019 and March 2020 as part of the ongoing groundwater monitoring program. It is noted that this report will take into consideration the previous monitoring periods in order to compare the current monitoring period with both the previous monitoring period and the baseline monitoring period, as well as inform the annual review of the groundwater monitoring program and provide recommendations on the monitoring requirements in accordance with Section 10 of the CGWMP.

## 1.1 Objectives

The objectives of this groundwater monitoring program are to:

- Characterise the post-baseline groundwater conditions including groundwater levels and groundwater quality within and surrounding the CSM project area during construction.
- Inform design decisions for the CSM infrastructure.
- Comply with the groundwater monitoring program outlined in the CGWMP, which has been approved by the Natural Resources Access Regulator (NRAR).

## 1.2 Scope of work

The scope of work completed by AGJV is summarised below:

- Gauging of up to 16 monitoring wells on a monthly basis for six months. Constraints encountered, with regards to well access, during the monitoring program are discussed in **Section 2**.
- Collection and analysis of groundwater samples from the monitoring wells on a monthly basis for six months.
- Submission of groundwater samples to NATA accredited laboratories for chemical analysis for a range of contaminants of potential concern (COPC) including: pH, total suspended solids (TSS), total dissolved solids (TDS), heavy metals; benzene, toluene, ethylbenzene and xylene (BTEX); total recoverable hydrocarbons (TRH); polycyclic aromatic hydrocarbons (PAH); phenols; organochlorine pesticides (OCP); organophosphorus pesticides (OPP); polychlorinated biphenyl (PCB); cyanide; ammonia; ferrous iron, manganese and major anions/cations (chloride, sulfate, ammonia, nitrate, sodium, calcium, potassium and magnesium).
- Collection of groundwater depth data from data loggers located in six monitoring wells (CSM_BH02, CSM_BH04, CSM_BH06, SRT_BH047, SRT_CBH017 and CSM_BH10S).
- Preparation of this report.

During this monitoring period, additional monitoring wells (SRT_BH050 and SRT_BH060) have been included in the monitoring program. Site constraints were encountered in relation to availability, access and condition of monitoring wells due to ongoing construction activities. AGJV has worked within these constraints to collect as much data as possible during the monitoring period. The status of monitoring wells at the time of each groundwater monitoring event is summarised in **Table B1, Appendix B** and discussed further in Section 2.

## 1.3 Limitations

AGJV's limitations to the assessment are provided in Section 9.

The table presented in **Table B1, Appendix B,** indicates that although the number of functioning groundwater monitoring wells used throughout this monitoring period has remained relatively stable, three wells were destroyed between December 2019 and February 2020 and two additional shallow monitoring wells included from February 2020. This could limit characterisation of construction impacts against baseline conditions for these wells, however this is not considered to be an issue as any ongoing emergence of impacts would still be characterised within the boundaries of the adopted sampling program. Further to this, the number of wells sampled differs to that presented in Table 7.3 of the CGWMP (LOR, Nov 2018).

# 2 Status of groundwater monitoring program

## 2.1 Overview of the baseline groundwater program

The groundwater baseline monitoring program for CSM commenced in September 2018, as per the CGWMP. The first six monthly baseline monitoring period was completed in February 2019, with the second six monthly monitoring period completed in September 2019. A groundwater monitoring report was prepared after the completion of the baseline monitoring period (AGJV, June 2019) and the second monitoring period (AGJV, January 2020).

A number of constraints were encountered throughout the current and previous two monitoring periods in relation to availability, access and condition of monitoring wells. These are discussed in this report and the AGJV reports mentioned above, and are summarised in **Table B1, Appendix B.**

A former gasworks brick tank was uncovered during construction of the Metro Box during the previous monitoring round in April 2019. Following the discovery, ADE was engaged by LOR to drill and install twelve additional wells (six shallow and six deep). Five deep wells and two shallow wells were installed throughout the study area by ADE during February and March 2019, with an additional one deep and four shallow wells installed between April and August 2019 in the area of the former gasworks, uncovered by LOR during Metro works in April 2019.

With regard to the requirements of Section 7.4 of the CGWMP, the sixth months of baseline monitoring for these wells only began for wells GASW_BH7, GASW_BH10, GASW_BH11, GASW_BH23, GASW_BH25a during the previous monitoring period. As such, these wells, which are located within the former gasworks gasholder footprint, are still monitoring the baseline groundwater conditions, as per the requirements of Section 7.4 of CGWMP, even though construction has commenced. This is considered to be acceptable for the following reasons:

- Due to preferential groundwater migration into the metro box excavation during construction, the concentration of contaminants present in the shallow wells are considered to be representative of background groundwater conditions.
- Deep wells (GASW_BH10) have not been intersected by construction activities over the monitoring period and are considered to be representative of baseline conditions.

These monitoring well locations are illustrated on **Figure 1, Appendix A**. The status of these monitoring wells during the current six monthly monitoring program are included in **Table B1, Appendix B**.

The third (current) six monthly monitoring period (October 2019 to March 2020) was completed in March 2020.

## 2.2 Groundwater monitoring between September 2018 and September 2019

The groundwater data collected between the September 2018 and September 2019 is presented in the following reports:

- AGJV. (June 2019). *Sydney Metro - Central Station Main Works - Groundwater Baseline Monitoring (September 2018 to February 2019) - SMCSWCSM-DJV-EW-00-COR-GE-000001.* Sydney: Aurecon GHD Joint Venture.
- AGJV. (January 2020). *Sydney Metro - Central Station Main Works - Groundwater Baseline Monitoring (April 2019 to September 2019) - SMCSWCSM-DJV-EW-00-PLN-GE-000003.* Sydney: Aurecon GHD Joint Venture.

The status of monitoring wells during the first two six-monthly monitoring programs (September 2018 to February 2019 and April 2019 to September 2019) are included in **Table B1, Appendix B**.

The chemical data for these two monitoring periods are included in **Table B2, Appendix B**, but has been interpreted within the above reports.

# 3 Basis for assessment

## 3.1 Relevant guidelines

The framework for the contamination assessment made herein, was developed in accordance with guidelines "made or approved", by the NSW EPA under Section 105 of the *Contaminated Land Management Act, 1997*. These guidelines include, but are not limited to the following:

- Consultants Reporting on Contaminated Land: Contaminated Land Guidelines, NSW EPA (NSW EPA, 2020)-.
- National Environment Protection (Assessment of Site Contamination) Amendment Measure (No.1) - NEPM, National Environment Protection Council - NEPC (NEPC, 2013).
- NSW EPA Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (NSW EPA, 2015).
- Australian and Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2000a).
- Guidelines for Managing Risks in Recreational Water (NHMRC, 2008).

## 3.2 Onsite human health screening levels

The NEPM HSLs for petroleum hydrocarbons for commercial / industrial land use have been adopted for the assessment of groundwater to characterise the risk posed to CSM construction workers and future metro infrastructure users and operation / maintenance workers by potential hydrocarbon vapour intrusion in sand. AGJV noted that the NEMP HSL is more stringent than other published screen values for petroleum hydrocarbons (i.e. CRC CARE guidelines for intrusive maintenance workers via vapour intrusion and direct contact pathways).

Recreational criteria in the National Health and Medical Research Council (NHMRC, 2008) have been used as a conservative screening tool for direct contact by intrusive maintenance workers on site coming into contact with groundwater. These guidelines are associated with incidental ingestion of water and area generally based on incidental consumption of 200 ml of impacted water per day as opposed to 2 Litres per day which the GILs for drinking water are based on. On this basis they are expected to be more representative of the type of exposure that will occur to construction and maintenance workers during construction and operation of the project and have been adopted as screening criteria for this exposure pathway. Commercial users of the metro/commuters will not come into contact with the groundwater.

## 3.3 Offsite human health

No potable water abstractions have been identified in hydraulic connection with groundwater beneath the CSM and the area is supplied by reticulated town water supplies. Therefore, the Australian Drinking Water Guidelines (ADWG) have not been adopted for this assessment.

The nearest receptor (Cockle Bay/Blackwattle bay) is approximately 1,000 m away and groundwater (if contaminated) would be considered likely to attenuate across this distance, however groundwater will be treated before being discharged into this receptor during dewatering activities. These water bodies are expected to be associated with recreational boating and potentially fishing only. Diving or swimming is not expected to occur. As such, and as per the NEPM (NEPC, 2013), the screening criteria for recreational drinking water quality in National Health and Medical Research Council (NHMRC, 2008) have been multiplied by a factor of 10 and adopted to provide a conservative recreational screening criteria for this assessment.

## 3.4 Ecological criteria

Based on the site hydrogeology, it has been assumed for this assessment that treated groundwater in the area will be discharged to the aquatic systems of Cockle Bay and/or Blackwattle Bay approximately 1 km away. As such, the assessment criteria nominated for this assessment are the NEPM Groundwater Investigation Levels (GIL) for protection of marine water ecosystems, which encompasses the screening criteria outlined in guideline for fresh and marine water quality (ANZECC & ARMCANZ, 2000a). These criteria are currently the same as that provided in the updated Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018).

For assessment of pH values in groundwater, the trigger value for pH for estuaries in NSW in ANZECC & ARMCANZ (2000a) volume 2 (Table 8.2.8) has been adopted. The values for estuaries were adopted as this was considered to be most representative of the receiving water environment (being Cockle Bay and/or Blackwattle Bay).

## 3.5 Trade waste criteria

AGJV understands that a trade waste agreement with Sydney Water was not approved due to capacity limitations in the Sydney Water sewer system. Therefore analytical results were not compared to the Sydney Water Trade Waste Acceptance Standards.

## 3.6 Aggressivity assessment criteria

The exposure classification criteria for concrete piles and steel piles presented in Australian Standard AS 2159-2009 *Piling – Design and installation* (Standards Australia, 2009) have been selected for assessing aggressivity of the groundwater.

## 3.7 Ochre potential assessment criteria

The criteria adopted for the assessment of ochre formation were based on Stuyt, Dierickx & Martinez Beltran (2005) and focused on ferrous iron concentrations in groundwater. These criteria include:

- Ferrous iron concentrations less than 1 mg/L indicate that ochre formation potential is negligible
- Ferrous iron concentrations between 1 and 5 mg/L indicate that ochre formation potential is small
- Ferrous iron concentrations between 5 and 10 mg/L indicate that ochre formation potential is moderate
- Ferrous iron concentrations between 10 and 25 mg/L indicate that ochre formation potential is high
- Ferrous iron concentrations more than 25 mg/L indicate that ochre formation potential is very high

# 4 Field investigation

## 4.1 Groundwater sampling dates

Groundwater sampling was conducted of accessible groundwater monitoring wells on the following dates:

- Event 13 – 16 to 18 October 2019
- Event 14 – 13 to 15 November 2019
- Event 15 – 16 to 18 December 2019
- Event 16 – 20 to 22 January 2020
- Event 17 – 24 to 26 February 2020
- Event 18 – 16 to 18 March 2020

## 4.2 Groundwater monitoring well locations

The groundwater monitoring wells sampled during the current six monthly program are presented in **Table B1, Appendix B**. The location of these monitoring wells is presented in **Figure 1, Appendix A**.

As discussed in Section 2.1, LOR excavated a former gasholder during heritage excavation works and during piling works at the south western corner of the Metro Box footprint in April 2019. Five additional groundwater monitoring wells were installed by ADE in April and August 2019 in the vicinity of the former gasholder to assess the potential groundwater impacts. GASW_BH7 and GASW_BH10 are within the gasworks former gasholder, GASW_BH23 and GASW_BH25A are within the the former gasholder footprint and GASW_BH11 is outside the former gasholder footprint. These monitoring wells were incorporated into the ongoing groundwater monitoring program during the last monitoring period from June 2019 (GASW_BH7, GASW_BH10 and GASW_BH11) and September 2019 (GASW_BH23 and GASW_BH25A). It should be noted that the latter two shallow monitoring wells (GASW_BH23 and GASW_BH25A) are unlikely to be representative of the broader shallow groundwater aquifer, given the gasholder structure (brick wall and concrete / puddle clay base) may act as an aquitard.

Three wells were destroyed during the current monitoring period:

- SRT_BH063 – No access since August 2019, the well was destroyed by February 2020
- SRT_CBH015 – Destroyed between December 2019 and January 2020
- SRT_CBH017 – Destroyed between January 2020 and February 2020

However, an additional two existing groundwater monitoring wells (SRT_BH050 on platform 4/5 and SRT_BH060 on platform 16/17) were incorporated into the ongoing groundwater monitoring program in February 2020, as such the number of wells monitored is considered to have remained relatively consistent throughout this monitoring period.

## 4.3 Groundwater level gauging and monitoring methodology

The method used to gauge the monitoring wells is described below:

- Prior to gauging the water level (SWL), each monitoring well was left to stand for a few minutes to stabilise with atmospheric conditions.

- The depth of the SWL and NAPL, if present, was measured at each monitoring well using an electronic interface meter, along with the total well depth with all measurements recorded from the top of the well casing.

During this monitoring period, groundwater level data loggers were placed in the following monitoring wells:

- SRT_CBH017, a shallow monitoring well on platforms 20/21, this data logger was removed in January 2020 and relocated to CSM_BH10S
- CSM_BH10S, a shallow monitoring well on Eddy Avenue
- SRT_BH047, a shallow monitoring well on platforms 6/7
- CSM_BH02, a deep monitoring well on platforms 10/11
- CSM_BH04, a deep monitoring well on Eddy Avenue
- CSM_BH06, a deep monitoring well on Ambulance Avenue

Therefore there were five data loggers that recorded groundwater levels at the same location across the entire monitoring period, with one data logger at SRT_CBH017 being relocated to CSM_BH10S during the January monitoring event due to the destruction of SRT_CBH017. The groundwater levels at these monitoring wells are graphed in **Appendix D**.

AGJV noted that tunnel boring machines (TBM) passed the CSM project area during July and August 2019. The TBM movement had significant impact on the groundwater levels (discussed in **Section 5.3**).

## 4.4 Groundwater sampling methodology

Representative groundwater samples were collected from the monitoring wells using the following sampling techniques:

- Each well was purged using low-flow sampling techniques (peristaltic pump or low-flow bladder pump, whichever was more appropriate) with dedicated low-density polyethylene (LDPE) tubing that is Teflon free. The pump inlet tube was placed consistently in the well screen at each location and was recorded.
- Field parameters (pH, electrical conductivity (EC), oxygen redox potential, dissolved oxygen (DO) and temperature) were measured and recorded during purging to ensure that extracted groundwater was representative of the surrounding groundwater conditions. When field parameters reached equilibrium, i.e. consecutive measurements are within 10% of each other for EC, redox and pH, the groundwater was deemed to be representative and groundwater samples were collected.
- Visual observations were recorded, in particular, the absence or presence of a hydrocarbon sheen or odour were recorded during purging.
- Retrieved groundwater samples were immediately placed into laboratory prepared bottles suitable for the requested analyses.
- Sample bottles were filled directly from the pump with a minimal amount of air contact and vials for volatile organic analysis were filled to minimise headspace. Samples that were to be analysed for dissolved metals were field filtered with a dedicated filter prior to placing the sample into the sample bottle.
- The containers were labelled with the project number, sample identification, date collected and sampler's initials.
- Following the collection of each sample, the bottles were placed immediately into ice-filled coolers for preservation prior to and during transportation to the project laboratories.

- Samples were accompanied with chain of custody documentation to the project laboratory and were submitted within holding times appropriate for the analysis required.
- Dedicated sampling equipment (i.e. tubing, bailers, filters etc.) was disposed of after each well was sampled with any reusable sampling equipment decontaminated using a mixture of phosphorus free detergent solution and potable water and then rinsed with potable tap water between each sampling location.

Calibration certificates for equipment including the interface probe and water quality meter are supplied in **Appendix E**. Groundwater purging sheets documenting the sampling procedure at each groundwater well are included in **Appendix F.**

## 4.5 Groundwater analysis

The analytical schedule for groundwater is presented in **Table B2, Appendix B**. In summary the groundwater samples were analysed as follows:

- Groundwater samples were submitted for laboratory analysis of COPC including, eight (8) metals, ferrous iron, manganese, TRH, TRH with silica gel clean up, BTEX, PAH, phenols, OCP, OPP, PCB, cyanide, ammonia, anions and cations.
- Trace analysis of cyanide and benzo (a) pyrene was undertaken from the December 2019 monitoring event onwards.
- Field intra and inter-laboratory duplicate samples were collected and submitted for laboratory analysis including eight (8) heavy metals, TRH, BTEX and PAH for each of the monitoring events.
- Trip blanks and trip spike samples were submitted with each batch of samples, and were analysed for BTEX and volatile TRH.
- Rinsate samples were collected one per sampling round with reusable equipment and were analysed for eight (8) heavy metals.
- Analysis of groundwater samples were undertaken by NATA accredited laboratories for the required analysis.

# 5 Monitoring results

## 5.1 Introduction

The primary aim of this section is to present the findings of the current six monthly monitoring period (October 2019 to March 2020).

In order to show long term trends in key water quality analytes and groundwater elevations, data from all monitoring periods have been combined. The combined data informs the discussion in Sections 5.3, 5.4 and 5.6

## 5.2 Field observations

During sampling, no visual signs of contamination (such as sheens) were observed, however, organic and hydrocarbon odours were noted in the following wells:

- CSM_BH04
- GASW_BH10
- GASW_BH11
- GASW_BH25a
- SRT_BH047
- SRT_BH050
- SRT_BH052
- SRT_CBH015
- GASW_BH7 (a very strong odour was noted in this well, which intersects gasworks waste)

Field observations are summarised in **Table B4, Appendix B**. The groundwater purging sheets are included in **Appendix F**.

## 5.3 Groundwater levels and trends

### 5.3.1 Gauging results – shallow monitoring wells

The groundwater gauging data is presented in **Table B3, Appendix B.**

The depth to groundwater in the shallow groundwater aquifer ranged between 1.333 metres below the top of well casing (mbtoc) in GASW_BH25a and 6.37 mbtoc in SRT_BH052.

The groundwater elevations of the shallow aquifer ranged between 10.41 m AHD at CSM_BH10S (January 2020) and 19.86 m AHD at SRT_BH059 (January 2020). The fluctuation in manual groundwater elevations in each shallow well over the current monitoring period ranged between 0.264 m at CSM_BH09S and 2.07 m at SRT_BH047. It is noted that CSM_BH10S is located down slope on Eddy Avenue and is expected to intersect a shallow groundwater system that has a limited hydraulic connection with the groundwater system intersecting the metro box.

There does not appear to be any significant reduction in groundwater elevations despite excavation of the metro box to the base of the shallow aquifer during the monitoring period. SRT_CBH017 appeared to deflate by approximately a metre before its destruction by the construction of the Central Walk. This trend is more evident in the groundwater level graph for this well in **Appendix B**.

The inferred shallow aquifer groundwater flow direction (using March 2020 monitoring data) is presented in **Figure 2, Appendix A** and appears to be the north, south and west from a groundwater mound location immediately to the south of Central Walk.

### 5.3.2 Gauging results – deep monitoring wells

The depth to groundwater in the deeper groundwater system ranged between 13.63 mbtoc in CSM_BH08 and 21.656 mbtoc at CSM_BH04.

The groundwater elevations of the deep aquifer ranged between -5.842 m AHD in CSM_BH04 (October 2019) and 1.333 m AHD in GASW_BH10 (March 2020).

The fluctuation in manual groundwater elevations in each deep well over the current monitoring period ranged between 0.2 m at CSM_BH08 and 0.866 m at CSM_BH04.

The inferred deep aquifer groundwater flow direction (using March 2020 monitoring data) is presented in **Figure 3, Appendix A** and is broadly to the north east.

### 5.3.3 Data loggers

The groundwater levels recorded by groundwater data loggers are presented with the daily rainfall data from Bureau of Meteorology Sydney Botanic Gardens weather station (066006) in **Appendix D**. The rapid decline and recovery in groundwater elevations at the time of manual gauging are associated with groundwater sampling works and do not reflect the background groundwater conditions.

#### 5.3.3.1 SRT_BH047

SRT_BH47 is a shallow monitoring well with the well screened across sandstone and laminate / residual soil.

The groundwater levels at SRT_BH047 generally ranged between 15.5 m AHD and 18.2 m AHD (excluding sampling response) during the monitoring period between September 2018 and March 2020. The groundwater levels responded to rainfall events. There did not appear to be any fall in groundwater elevations associated with ongoing excavation of the metro box down to the top of bedrock.

#### 5.3.3.2 SRT_CBH017

SRT_CBH017 is a shallow monitoring well with the well screened within shale.

The groundwater levels at SRT_CBH017 generally ranged between 18.7 m AHD and 20.30 m AHD (excluding sampling response) during the monitoring period between September 2018 and March 2020. The groundwater levels at SRT_CBH017 responded to rainfall events and also appeared to gradually fall before its destruction by construction work for Central Walk.

SRT_CBH017 was destroyed between January and February 2020, and the data logger was relocated to CSM_BH10S.

#### 5.3.3.3 CSM_BH10S

CSM_BH10S is a shallow well with the well screened within residual soil (clayey sand and sandy clay)

The data logger was relocated from SRT-CBH017 to CSM_BH10S and has been recording data since January 2020. The groundwater levels at CSM_BH10S generally ranged between 10.3 m AHD and 11.5 m AHD (excluding sampling response) during the monitoring period between January 2020 and March 2020. The groundwater levels at CSM_BH10S responded to rainfall events.

There did not appear to be a clear fall in groundwater elevations associated with ongoing excavation of the metro box down to the top of bedrock.

#### 5.3.3.4 CSM_BH06

CSM_BH06 is a deep monitoring well screened within sandstone.

The groundwater levels at CSM_BH06 generally ranged between -2 m AHD and 1.8 m AHD (excluding sampling response) during the monitoring period between April 2019 and March 2020. The groundwater levels at CSM_BH06 were stable (around 1.8 m AHD) between April and July 2019, then had significant declines in late July 2019, when tunnel boring machines (TBM) moved through the CSM project area. Since then, the groundwater levels at CSM_BH06 have steadily recovered. Groundwater levels at CSM_BH06 did not respond to rainfall events indicating a reduced connection with rain fall directly on the site.

#### 5.3.3.5 CSM_BH04

CSM_BH04 is a deep monitoring well screened within sandstone.

The groundwater levels at CSM_BH04 generally ranged between -9.5 m AHD and -2.5 m AHD (excluding sampling response) during the monitoring period between April 2019 and March 2020. The groundwater levels at CSM_BH06 were stable (around 1.7 m AHD between April and July 2019, then had significant declines in late July 2019, when tunnel boring machines (TBM) moved through the CSM project area. Since then, the groundwater levels at CSM_BH06 have slowly recovered. Groundwater levels at CSM-BH04 did not respond to rainfall events indicating a reduced connection with rainfall on site.

#### 5.3.3.6 CSM_BH02

CSM_BH02 is a deep monitoring well screened within sandstone.

The groundwater levels at CSM_BH02 were only available from the data logger from the end of August 2019. Data before that was lost due to the significant decline of groundwater levels likely caused by undermining of the TBM and technical issues with the data logger. Based on the available data, groundwater levels at CSM_BH02 have steadily recovered following impact by the TBM. The groundwater levels did not respond to rainfall events indicating a reduced connection with rainfall on site. The groundwater levels at CSM_BH02 ranged between -0.1 m AHD and 1.4 m AHD during the monitoring period between August 2019 and September 2020.

### 5.3.4 TBM effects on groundwater elevations

The tunnel boring machines (TBM1 and TBM2) passed underneath Central station between 18 and 19 July 2019, and between 1 and 2 August 2019 during the last monitoring period. AGJV undertook groundwater sampling soon after each event and found there was significant drawdown in the deep monitoring wells (CSM_BH04 and CSM_BH06) at the time of passing. The groundwater levels in shallow monitoring wells SRT_BH047 and SRT_CBH017 did not respond.

AGJV reviewed the graphs for deep monitoring wells in the current monitoring period and found the groundwater level in CSM_BH06 has recovered almost completely since the TBM passed, while the graph for CSM_BH04 indicates that groundwater levels have recovered approximately 70%.

## 5.4 Field measured groundwater quality parameters

The field measured groundwater quality parameters are summarised in **Table B4** of **Appendix B**. The field purging sheets are included in **Appendix F**.

The measured temperature, electrical conductivity and pH at monitoring well locations were relatively consistent across the monitoring period. It is noted that the oxidation / reduction potential fluctuated

and were lower in deep monitoring wells compared with the shallow wells. Dissolved oxygen and pH observations were also generally lower in the deep wells.

The electrical conductivity (EC) at all locations was generally indicative of fresh water.

## 5.5 Laboratory analytical results

The results have been discussed separately relative to the adopted criteria in the following sections. The laboratory results are presented in **Table B2** of **Appendix B** and the laboratory reports are provided in **Appendix C**.

The following section only discusses the laboratory analytical results from the current monitoring period (October 2019 to March 2020) relative to the adopted criteria. A discussion of trends in the data over the entire monitoring period is presented in Section 5.6. All monitoring data from the current as well as previous monitoring periods are included in **Table B2** of **Appendix B**

The detections and exceedances of adopted screening criteria of contaminants of potential concern (COPC) are summarised in **Table B9, Appendix B** and are discussed further below.

### 5.5.1 Human health and ecological screening criteria

**Heavy Metals**

The heavy metal analytical results are discussed below:

- Arsenic: The majority of the groundwater samples had reported concentrations below the laboratory reporting limit (0.001 mg/L). The maximum reported concentration was 0.012 mg/L at GASW_BH25a. All samples had reported concentrations below the adopted onsite and offsite human health criterion. There is no ecological criterion.

- Cadmium: The majority of the groundwater samples had reported concentrations below the laboratory reporting limit (0.001 mg/L). One inter-laboratory duplicate sample had a reported concentration of 0.0001 mg/L. All samples had reported concentrations below the adopted onsite and offsite human health and ecological screening criterion.

- Chromium: The majority of groundwater samples had reported concentrations below the laboratory reporting limit (0.001 mg/L). The maximum reported concentration was 0.003 mg/L at CSM_BH06 and GASW_BH23. All samples had reported concentrations below the adopted ecological screening criterion. There is no human health criterion.

- Copper: Close to half of all samples (48 out of 104) had reported concentrations above the adopted offsite ecological screening criterion (0.0013 mg/L) but below the adopted on-site and off-site human health screening criterion (20 mg/L). The maximum reported concentration was 0.031 mg/L at CSM_BH06.

- Lead: The majority of the groundwater samples had reported concentrations below the laboratory reporting limit (0.001 mg/L). The maximum reported concentration was 0.004 mg/L at GASW_BH7. All samples had reported concentrations below the adopted onsite and offsite human health and ecological screening criterion.

- Manganese: The majority of groundwater samples had reported concentrations above the laboratory reporting limit (0.005 mg/L). The maximum reported concentration was 6.8 mg/L at SRT_CBH015. Three samples from SRT-CBH015 had reported concentrations of manganese above the adopted onsite and offsite human health screening criterion (5 mg/L).

- Mercury: All of the groundwater samples had reported concentrations below the laboratory reporting limit (0.0001 mg/L) except for one detect of 0.0002 mg/L at GASW_BH10. All samples had reported concentrations below the adopted onsite and offsite human health criterion, however one sample with a detected concentration at GASW_BH10 was reported in exceedance of the ecological screening criterion (0.0001 mg/L).

- Nickel: Approximately one third (39 out of 104) of the groundwater samples had reported concentrations equal to or above the adopted offsite ecological screening criterion (0.007 mg/L) but below the adopted onsite and offsite human health screening criterion (0.2 mg/L). The maximum reported concentration was 0.053 mg/L at CSM_BH06.

- Zinc: Close to half (51 out of 104) of the groundwater samples had reported concentrations equal to or above the adopted offsite ecological screening criterion (0.015 mg/L). The maximum reported concentration was 0.14 mg/L at CSM_BH06 and GASW_BH23.

**Cyanide**

Over half (53 out of 92) of groundwater samples had reported concentrations above the adopted offsite ecological screening criterion (0.004 mg/L), primarily due to the laboratory reporting limit being in exceedance of this criterion during the October 2019 and November 2019 monitoring events and prior to the implementation of trace analysis. Most wells had reported concentrations of cyanide below the LOR, with the exception of the March 2020 monitoring event, where cyanide was detected above the LOR in 14 monitoring wells. AGJV reviewed the field sampling procedures and laboratory quality control and did not identify any issues with the sample collection and analysis.

AGJV reviewed the dataset of the previous 18 monitoring events and identified the majority of detections of total cyanide were located in a number of monitoring wells in the January 2019, July 2019 and March 2020 monitoring events. AGJV consider these detections of total cyanide are not localised to the uncovered gasworks gasholder and are part of the background fluctuations. However, more prevalent detections with some relatively high concentrations were identified in sampling locations GASW_BH23 from October 2019 to March 2020, and in GASW_BH25a from September 2019 to March 2020. AGJV consider these detections of total cyanide to be representative of gasworks related impacts at the former gasholder that are not part of background fluctuations.

**TRH, BTEX and PAH**

Total Recoverable Hydrocarbons (TRH) is typically measured through a solvent extraction procedure, however it is non-specific and includes not only petrogenic hydrocarbons but also non-petrogenic hydrocarbons, which can lead to overly conservative results and false positives. A better representation of the petroleum hydrocarbons in a sample can often be achieved by performing a procedure known as ‘silica-gel clean-up’. This procedure uses silica-gel particles in the TRH solvent extract which typically adsorbs non-petrogenic hydrocarbons, leaving the petrogenic hydrocarbons dissolved in the extract, Analysis of the “cleaned-up” extract therefore produces analytical results representative of petrogenic sources, providing the best estimation of petroleum hydrocarbon concentrations. This groundwater monitoring program adopts the results from the silica-gel clean up procedure.

The majority of the groundwater samples submitted for analysis reported concentrations of TRH (with silica gel cleanup) below the adopted screening levels for human health (i.e. onsite vapour intrusion and offsite recreational) and protection of marine aquatic ecosystems. Whilst there are no screening criteria for TRH (with silica gel cleanup) and therefore exceedances of criteria, TRH (with silica gel cleanup) was only detected above the laboratory LOR at five locations (GASW_BH10, GASW_BH11, GASW_BH23, GASW_BH25a, GASW_BH7). These detections are of low levels and appear to be indicative of low level impact associated with the gasworks.

Exceedances of adopted screening criteria were also noted in the following instances:

- Whilst concentration of TRH (with silica gel cleanup) were reported at low levels, concentrations of TRH F1 fraction (C6 – C10 fraction minus BTEX, without silica gel cleanup) were reported in exceedance of human health criteria (on-site vapour intrusion) on three occasions in GASW BH25: December 2019 (6,300 µg/L), January 2020 (11,000 µg/L) and March 2020 (7,000 µg/L).

- Concentrations of benzene in groundwater samples collected from GASW_BH23 were reported in exceedance of the adopted off-site recreational and ecological criteria across all monitoring events (October 2019: 2,400 µg/L, November 2019: 3,200 µg/L, December 2019: 560 µg/L, January 2020: 1,500 µg/L, March: 640 µg/L), with concentrations reported in exceedance of the adopted human health criteria (on-site vapour intrusion) during the February monitoring event (5,500 µg/L).

- Concentrations of benzene in groundwater samples collected from GASW_BH25a were reported in exceedance of the adopted off-site recreational and ecological criteria across all monitoring events (October 2019: 2,700 µg/L, November 2019: 2,200 µg/L), with concentrations also reported in exceedance of the adopted human health criteria for on-site vapour intrusion during the December 2019 (9,700 µg/L), January 2020 (30,000 µg/L), February 2020 (16,000 µg/L) and March 2020 (9,800 µg/L) monitoring events. Additionally, the concentration of toluene was reported in exceedance of the off-site recreational criteria during the January 2020 monitoring event (11,000 µg/L), but was detected at reduced concentrations below this criteria during the February (7,200 µg/L) and March (4,900 µg/L) monitoring events.

- Concentrations of benzene in GASW_BH7 were reported in exceedance of the off-site recreational criterion across all monitoring events, with a maximum concentration of 130 µg/L during the November 2019 monitoring event.

- Concentrations of benzene in GASW_BH11 were reported in exceedance of the off-site recreational criteria during the October 2019 (20 µg/L) and equal to the criteria in December 2019 (10 µg/L) monitoring events.

- Concentrations of naphthalene were reported below the laboratory limit of reporting on all occasions, however, due to high concentrations of one or more analytes at GASW_BH23 and GASW_BH25a, the LOR was reported above the adopted ecological screening criteria at these locations for all monitoring events in the current monitoring period, with the limit of reporting raised to between 80 µg/L and 4,000 µg/L. The results for naphthalene for the PAH analysis show that actual values are below the ecological screening criteria.

- Almost half the groundwater samples (39 out of 104) reported concentrations of benzo (a) pyrene above the adopted human health guidelines for off-site recreational receptors. However, 37 of these exceedances were due to the laboratory limit of reporting being above the criteria during the October 2019 and November 2019 monitoring events. Trace analysis for benzo (a) pyrene was implemented from December 2019 onwards, during which two exceedances were identified at GASW_BH25a. This included a concentration of 0.35 µg/L from the December 2019 event and 0.32 µg/L from the February 2020 events.

**Phenols, OCP, OPP and PCB**

The majority of samples submitted for analysis had reported concentrations below the laboratory detection limit, although it is noted that the laboratory detection limit for endrin and chlorpyrifos was above the adopted criteria for the protection of marine ecosystems.

During the March 2020 sampling event, both SRT_BH050 and SRT_BH060 had reported concentrations below the laboratory limit of detection (<500 µg/L), which was in exceedance of fensulfothion (100 µg/L) and fenthion (70 µg/L).

**Ammonia**

The majority of samples submitted for analysis (66 out of 92) had reported concentrations above the laboratory detection limit (0.01 mg/L). All the samples had reported concentrations below the adopted ecological criteria (0.91 mg/L), with the exception of one sample from GASW_BH23, which was collected in February 2020 and had a reported concentration of 1.3 mg/L.

### 5.5.2 Statistical analysis

The statistical analysis of the cyanide, ammonia and BTEX analytical results from all monitoring rounds was undertaken to understand the impact of the gasworks COPC on bulk groundwater concentrations and thus inform the need for groundwater treatment of these analytes before discharge off-site. Benzo(a)pyrene, xylene and ethylbenzene have not been assessed due to either the low level and low number of exceedances to date or the absence of any exceedances. Given the wide range in the concentrations of cyanide, ammonia and BTEX between wells throughout the site and wells within the former gasworks, the use of the 95$^{th}$ upper confidence limit (UCL) of the average concentrations was expected to be skewed by outliers. Rather, the actual concentration is likely to fall somewhere between the calculated median and mean values. The mean is also expected to be skewed upward but less so than the UCL and so it has been adopted as a conservative estimate of bulk formation water quality. Testing should be conducted on waste water entering the treatment system to accurately inform discharge treatment/management requirements. To obtain mean and median values, the average reported concentration was recorded for each well, with the average and median of those values calculated as presented in Table 5-1 below.

**Table 5-1 – Statistical calculations**

| COPC | Cyanide (mg/L) | Ammonia (mg/L) | Benzene (µg/L) | Toluene (µg/L) | TRH (F1) (µg/L) |
|---|---|---|---|---|---|
| Mean concentration | 0.0097 | 0.057 | 478 | 165 | 210 |
| Median concentration | 0.005 | 0.005 | 1 | 1 | 10 |
| Human health criteria - Vapour | Not available | Not available | 5,000 | Unlimited | 6,000 |
| Human health criteria – Recreational / Direct contact | 0.8 | Not available | 10 | 8,000 | Not available |
| Ecological criteria | 0.004 | 0.91 | 500 | Not available | Not available |

The calculated mean and median cyanide concentrations are in exceedance of the adopted ecological criteria, but below the adopted human health criteria. The calculated values for cyanide will also be impacted by the LOR for cyanide being at, or above, the ecological criteria.

The calculated mean concentration of benzene is in exceedance of the adopted recreational/direct contact human health criteria, but below the ecological criteria, whilst concentrations of toluene and TRH (F1) are below the adopted human health criteria, with no adopted ecological criteria.

Average and median ammonia concentrations are below the adopted ecological criteria.

It is noted that a number of metals (chromium, copper, lead, manganese, nickel and zinc) have exceedances of groundwater criteria may also require treatment before discharge off-site. The median and average values for these analytes are presented in the summary statistics in Table B2 of Appendix B.

It should be noted that these calculations are considered to be a conservative guide, and a mass balance approach may provide more representative results (see Section 7.2 recommendations).

### 5.5.3 Aggressivity

Concentrations of sulfate, chloride and pH have been compared against the adopted aggressivity criteria in **Table B5** and **Table B6** of **Appendix B**. The results suggest that existing groundwater may present a mild to moderate risk to concrete structures intersecting groundwater. However due to the low pH values in groundwater at GASW_BH7 (a shallow groundwater monitoring well located within the uncovered gasworks tank) there is potential for a severe to very severe risk to concrete structures above and below groundwater at this location.

The reported groundwater quality is expected to be non-aggressive to steel piles with the exception at GASW_BH7, where groundwater presents a mild to moderate risk to steel structures. Water quality during the January 2020 monitoring event at CSM_BH02 presented a non-aggressive to mild risk to steel structures, however the February and March 2020 monitoring events reported non-aggressive water quality values.

### 5.5.4 Precipitation (Formation of Ochre)

Ferrous iron and manganese was analysed in groundwater samples and results are included in **Table B2** of **Appendix B.**

Ferrous iron concentrations ranged from below the laboratory reporting limits (0.05 mg /L) to maximum reported concentration of 19 mg/L at GASW_BH10. Comparison of the results against the criteria adopted for ochre formation suggests that there is a negligible to high potential for ochre formation.

The manganese concentrations ranged from less than the laboratory reporting limit (0.005 mg/L) to 6.8 mg/L at SRT_CBH015.

## 5.6 Discussion of trends in COPC concentrations

The groundwater analytical results for the current monitoring period (October 2019 to March 2020) and previous monitoring periods (September 2018 to February 2019 and April 2019 to September 2019) have been combined to analyse trends, the analytical results from all monitoring periods are presented in **Table B2, Appendix B**.

The field measured pH and laboratory analytical results for total dissolved solids (TDS), dissolved nickel, dissolved zinc, dissolved copper and dissolved lead for 14 active monitoring well locations (five deep wells and nine shallow wells with data from a minimum of six events and currently active) have been graphed and are included in **Appendix D**. These analytes were selected as:

- They have a high frequency of laboratory detection facilitating a reasonable assessment of trends over time
- They are at concentrations that commonly exceed the adopted human health or ecological criteria, and are therefore of key concern.

The most recent six months of monitoring has collated a reasonable dataset for concentrations of key COPC in and around the former gasworks. This includes cyanide, TRH (F1), BTEX and ammonia. As such, plots for these analytes have been prepared (see Appendix D) and are discussed below. It is noted that benzene has been used as a surrogate for TRH F1, in this instance, as it is currently the primary risk driver for these analytes. While benzo (a) pyrene is also a contaminant associated with gasworks waste, there are insufficient detectable concentrations in the current data set to reasonably assess trends.

### TDS

The graph for total dissolved solids suggests a relatively stable trend in total dissolved solids over the entire monitoring period, with the exception of the concentration of total dissolved solids at GASW_BH10 and CSM_BH02, which show a slight upward trend. It appears unlikely that the response would be due to construction given the relatively consistent stable trend across other sampling locations throughout the monitoring periods.

### pH

There is no clear trend in the pH results suggesting that the results represent normal fluctuation in background conditions. Spikes in pH (insitu observations) were observed at some wells over August, October, November and December of 2019, with the most notable pH spikes detected in CSM_BH04 and GASW_BH23 (9.6 and 11, respectively, during the December 2019 monitoring round). However, pH has consistently stabilised after each spike. The pH levels are generally below (and outside) the default trigger value range for slightly disturbed estuaries in south-east Australia (ANZECC & ARMCANZ, 2000a).

### Metals

Concentrations of lead, zinc and copper appear to follow a slightly decreasing trend, with the exception of a temporary spike in these analytes during the February 2019 monitoring event at SRT_BH052.

The concentrations of nickel appear to have a high degree of fluctuation in background concentrations, with no clear trend.

It is noted however, that in monitoring wells SRT_BH047, SRT_BH052 and SRT_BH059, which have data extending across all monitoring periods, including the baseline monitoring period (approximately 18 months of monitoring), there appears to be a general trend of decreasing concentrations for pH, TDS, copper, lead, nickel and zinc. It is unclear if this is associated with construction works or a climatic effect, but at present it is resulting in less frequent and lower level exceedances of the criteria at these locations for the analytes assessed.

### Benzene and Toluene

The trend plots for benzene and toluene highlight the impacts associated with the gasworks, particularly in the wells installed at or about the commencement of the latest six month monitoring period (such as GASW_BH7, GASW_BH23 and GASW_BH25A). The higher concentrations reflect the incorporation of the gasworks wells into the monitoring program over the last six months rather than the presence of increasing impacts associated with construction.

As stated previously, the concentrations of benzene and toluene in the former gasworks monitoring wells, particularly those screened directly in the gasworks waste (GASW_BH23 and GASW25A) have concentrations that have exceeded the adopted criteria (including the adopted criteria for human health – vapour, human health criteria – recreation / direct contact and ecology – marine water ecosystems).

The concentrations of benzene and toluene in the gasworks wells do not appear to show increasing trends, but rather a high variability. Ongoing monitoring will inform the range in variations that can be expected for wells screened in and around the former gasworks.

The concentration of benzene and toluene in GASW_BH25A may appear to have increased over the monitoring period, but this monitoring dataset does not include the monitoring completed by ADE in August 2019 (ADE, 2019d) where the concentrations of benzene were 15,300 µg/L and concentrations of toluene were 5,660 µg/L. As such, the concentrations observed do not change the conceptualisation of potential human health and ecological risks previously identified.

### Ammonia

The plot for ammonia does not show any increasing trends across the data set other than at GASW_BH7 where there does appear to be an increasing concentration, albeit at concentrations that are an order of magnitude below the adopted criteria. Long term monitoring locations including SRT_BH047, SRT_BH052, SRT_BH059, SRT_CBH015 and SRT_CBH017 have had short term spikes (noting that SRT_CBH015 was destroyed during a potential spike). The latest monitoring event appears to be associated with another spike in concentrations. There is also an apparent increase in concentration variability over time in these wells, which appears to be masked by the inclusion of additional wells in the monitoring program in May 2019. Regardless, the current variability is generally an order of magnitude lower than the adopted ecological criteria.

The ammonia concentrations present in GASW_BH23 and GASW_BH25A are higher than elsewhere across the site reflecting the elevated ammonia impacts present within the gasworks waste. The concentrations in these wells have been reported above the adopted ecological criteria in one instance, which is reflective of the existing gasworks waste rather than impacts from construction works.

Concentrations in deep well SRT_BH039 were above the ecological criteria at the start of the monitoring program suggesting that background concentrations were elevated in the deeper aquifer system.

### Cyanide

Concentrations of cyanide are all above the adopted ecological criteria primarily until December 2019 when trace analysis was introduced and the laboratory limit of reporting was reduced from 0.005 mg/L to 0.004 mg/L, which equals the adopted ecological criteria. There are no concentrations above the adopted human health recreational/direct contact criteria. There is no apparent trend of increasing cyanide concentrations in the data set, although monitoring event spikes are present in the majority of monitoring wells in January 2019 and July 2019 and the latest monitoring event appears to be associated with a spike in detectable concentrations. It's does not appear that the spikes are associated with rainfall events and they do not coincide with spikes in other analytes across the site, although the high concentration observed within CSM_BH02 in July 2019 did have an anomalously high total suspended solids result. The highest concentrations in the July 2019 spike appear to be associated with deep wells at greatest distance from the metro box suggesting that the fluctuations are more likely to be associated with background conditions.

Concentrations of cyanide in the gasworks waste wells (GASW_23 and GASW_25A) are elevated relative to elsewhere on site (over the same monitoring period) and consistently above detection, which is reflective of gasworks waste impact rather than construction related impacts. The concentrations do not appear to show increasing trends, but rather a high variability. Ongoing monitoring will inform the range in variations that can be expected for wells screened in and around the former gasworks.

# 6 Quality assurance and quality control assessment results

## 6.1 Field program

As part of the AGJV QA/QC program, one intra-laboratory and one inter-laboratory duplicate sample was analysed during each monitoring event. Concentrations were reported for heavy metals, TRH, BTEX and PAH, however some results reported concentrations below the limit of laboratory reporting and as a result, it was not possible to calculate a RPD for these samples. For analytes with detected concentrations reported, RPDs were within the acceptable range, with the exception of exceedances shown in **Table B7, Appendix B**.

Elevated RPDs were noted between the following primary and duplicate samples (excluding lab calculated parameters):

- CSM_BH10S and QC01 in October 2019 for nickel (67%)
- CSM_BH04 and QC02 in October 2019 for TRH C10 – C14 fraction (67%)
- CSM_BH10S and QC02 in November 2019 for TRH F2 fraction (156%), TRH C10 – C16 fraction (156%) and TRH C10 – C14 fraction (150%)
- CSM_BH06 and QC01 in December 2019 for TRH F3 fraction (100%) and TRH C15 – C28 fraction (100%)
- CSM_BH04 and QC02 in January 2020 for TRH F3 fraction (67%), naphthalene-PAH (177%), Phenanthrene (178%) and Pyrene (156%)
- CSM_BH09S and QC01 in February 2020 for nickel (40%)
- CSM_BH04 and QC02 in February 2020 for TRH F3 fraction (100%) and TRH C15 – C28 fraction (67%)

These elevated RPDs were likely attributed to the concentrations of analytes being close to the laboratory reporting limits (i.e. less than 10 times of the laboratory reporting limits), where a small difference in concentrations trigger an exaggerated RPD result. One rinsate sample was collected during each monitoring round and analysed for heavy metals. Concentrations from the rinsate sample were reported below the laboratory limit of reporting (LOR) indicating that cross contamination of samples did not occur.

One set of water trip blank and trip spikes were analysed as part of each monitoring round of the investigation. The results of the trip spike have been reviewed by GHD and were found to be within the acceptable criteria, therefore it is considered unlikely that an unacceptable loss of volatile contaminants would have occurred. Concentrations from the trip blank samples were reported below the laboratory LOR, therefore it is considered unlikely that cross-contamination of samples or loss of volatiles occurred during transportation to the laboratory.

The rinsate and trip blank analytical results are summarised in **Table B8, Appendix B**. Laboratory analytical reports are included in **Appendix C**.

## 6.2 Laboratory program

***Holding times***

All analytes were extracted within the laboratory's required holding times for chemical analysis as presented on laboratory reports on **Appendix C**.

***Laboratory program***

The NATA certified laboratories used for this assessment (Eurofins Sydney and Australian Laboratory Services) undertook their own quality assurance and quality control procedures for sample analysis. AGJV has reviewed the internal laboratory control data provided within the laboratory reports, which are attached as **Appendix C**. It is noted comments have been provided by the laboratory where a failure result was reported in laboratory QA/QC procedures.

## 6.3 Discussion

Despite the elevated RPD of primary and duplicate samples for nickel, PAH and TRH fractions, the results of the QA/QC program are considered to provide an acceptable degree of confidence in the analytical program completed. Overall, the analytical data set is considered to be valid and acceptable for assessing the contamination status of the site.

# 7 Findings, conclusions and recommendations

## 7.1 Findings and conclusions

In accordance with the objectives detailed in **Section 1.1**, and based on the information contained within this monitoring program, the following findings are noted (subject to the limitations outlined in **Section 9**).

- Due to the destruction and replacement of monitoring wells as the construction progresses there are the following difference in sampling locations to those listed in Table 7.3 of the latest CGWMP
  - SRT_BH063 has been destroyed and is no longer being sampled
  - SRT_CBH015 has been destroyed and is no longer being sampled
  - SRT_CBH017 has been destroyed and is no longer being sampled
  - CSM_BH05 has been destroyed and is no longer being sampled
  - SRT_BH052 has been sampled since event 2, but is not shown on table 7.3
  - SRT_BH050 has been uncovered and is now being sampled
  - SRT_BH060 has been uncovered and is now being sampled
  - GASW_BH7 has been installed and is now being sampled
  - GASW_BH10 has been installed and is now being sampled
  - GASW_BH11 has been installed and is now being sampled
  - GASW_BH23 has been installed and is now being sampled
  - GASW_BH25a has been installed and is now being sampled

The groundwater elevation data suggests that there are two distinct aquifers at the site one in the overlying unconsolidated materials and the other in the Hawkesbury Sandstone. This is supported by:

- A distinct difference in groundwater elevations between the shallow and deeper aquifers (> 5 m).
- A significant difference in response to rainfall events between wells screened within the shallow and deep aquifers. Shallow wells displayed a distinct and immediate response to rainfall events, whereas deep wells displayed a delayed response.
- A significantly different response to the passing of the TBM between wells screened in the shallow and deeper aquifer systems.
- There does not appear to be any significant reduction of groundwater elevations associated with the excavation of the metro box to date. Most effects are associated with rainfall or the previous passing of the TBM's (with a temporary drawdown and recovery).

Groundwater flow direction within the shallow aquifer system is toward the north, south and west. It appears this is generally consistent with the general fall in topography and towards harbour areas.

Groundwater flow direction in the deeper aquifer appears to be to the north east toward subsurface infrastructure (the ESR tunnels).

The groundwater quality sampling results suggest the following:

- Concentrations of lead, zinc and nickel in all the groundwater wells appear to be generally stable with a slightly decreasing trend across all three monitoring periods (September 2018 to March 2020).
- A number of COPC have not been reported above laboratory reporting limits in any samples to date. These COPC include OCP, OPP and PCB. This indicates that there are no impacts from these COPC associated with current and historical activities. While the laboratory limit of reporting is higher than the ecological criteria for endrin and chlorpyrifos these are not considered to be primary contaminants of concern. The laboratory limit of reporting for trace analysis of these pesticides analytes is also above the adopted ecological criteria indicating that trace analysis while having lower detections may not resolve any lower level exceedances.
- Based on the exceedances identified and summarised in **Table B9** of **Appendix B**, and the statistical analysis undertaken in Section 5.5.2**,** the following analytes are may require management/treatment before discharge to surface water
  - pH
  - Cyanide
  - Metals including chromium, copper, lead (noting it has not exceeded criteria over the last monitoring period), manganese, mercury (one exceedance only), nickel and zinc.
  - Benzo(a)pyrene
  - Benzene
- TRH (with silica gel cleanup) results have been detected above laboratory LOR in five monitoring wells. These detections are of low levels and appear to be indicative of low level impact associated with the gasworks. However, concentrations of TRH F1 fraction (C6 – C10 minus BTEX, without silica gel cleanup) were reported in exceedance of on-site human health criteria (vapour intrusion) on three occasions during the current monitoring period.
- Benzene, benzo (a) pyrene and toluene in and around the gasworks and manganese across the site may represent a potential contact risk for construction workers, although it is noted that the adopted criteria are conservative.
- Concentrations of benzene in GASW_BH23 and GASW_BH25a have been reported above the human health vapour criteria for industrial (construction) and commercial receptors on five occasions during the current monitoring period.
- There is potential for very severe risk to concrete structures and mild to moderate risk to steel within the vicinity of the former gasworks holder.
- There is a moderate to high potential for ochre formation throughout the site, particularly within the vicinity of the former gasworks holder.
- There does not appear to be an ongoing emergence of groundwater quality impacts associated with the construction works. This is understandable given that groundwater flow is directed into excavation, where it is being collected and treated.

## 7.2 Recommendations

Based on the findings of the current groundwater monitoring period and consideration of findings from the previous monitoring period and the baseline monitoring period, AGJV recommend:

- Continued monitoring and factual reporting on a six monthly basis in accordance with the CGWMP.
- The addition of TRH C6-C10 (minus BTEX) (F1) and ammonia to the list of chemicals requiring treatment for discharge to surface water.
- Ongoing characterisation of groundwater quality entering the treatment plant, particularly
  - pH

- Cyanide
- Metals including chromium, copper, lead (noting it has not exceeded criteria over the last monitoring period), manganese, mercury (one exceedance only), nickel and zinc.
- Benzo (a) pyrene
- Benzene

- These groundwater sampling and analysis results could be supported by ongoing statistical analysis of the results, coupled with groundwater inflow interpreted from the hydrogeological modelling (a mass balance approach).
- Due to destruction of monitoring wells it is recommended that additional wells should be installed to replace destroyed monitoring wells CSM_BH05 (south west of the metre box), SRT_BH063 (eastern entrance) and SRT_BH017 on suburban platforms intersecting central walk.
- The groundwater aggressivity results have been tabulated (**Table B5 and Table B6, Appendix B**) and should be provided to the relevant AGJV design specialist for further consideration.
- The groundwater monitoring results should be provided to the relevant specialist operator of the construction and operational water treatment plants for the treatment of groundwater.

# 8 References


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# 9 Limitations

It is noted that AGJV does not rely on any data collected and reported by other consultants.

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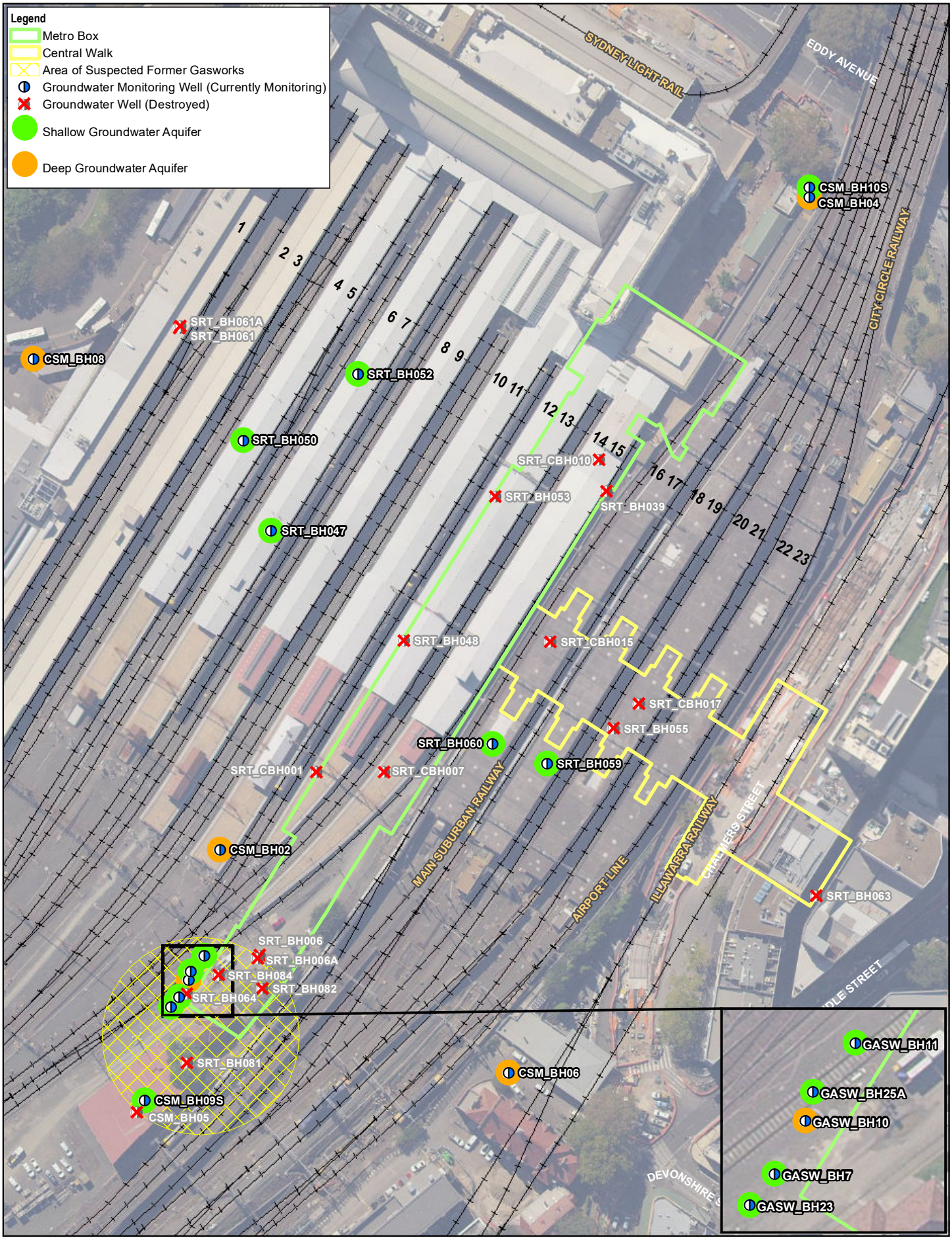
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# Appendices

# Appendix A
# Figures




Paper Size ISO A4

0 10 20 30 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

AGJV

Laing O'Rourke
Central Station Main Works

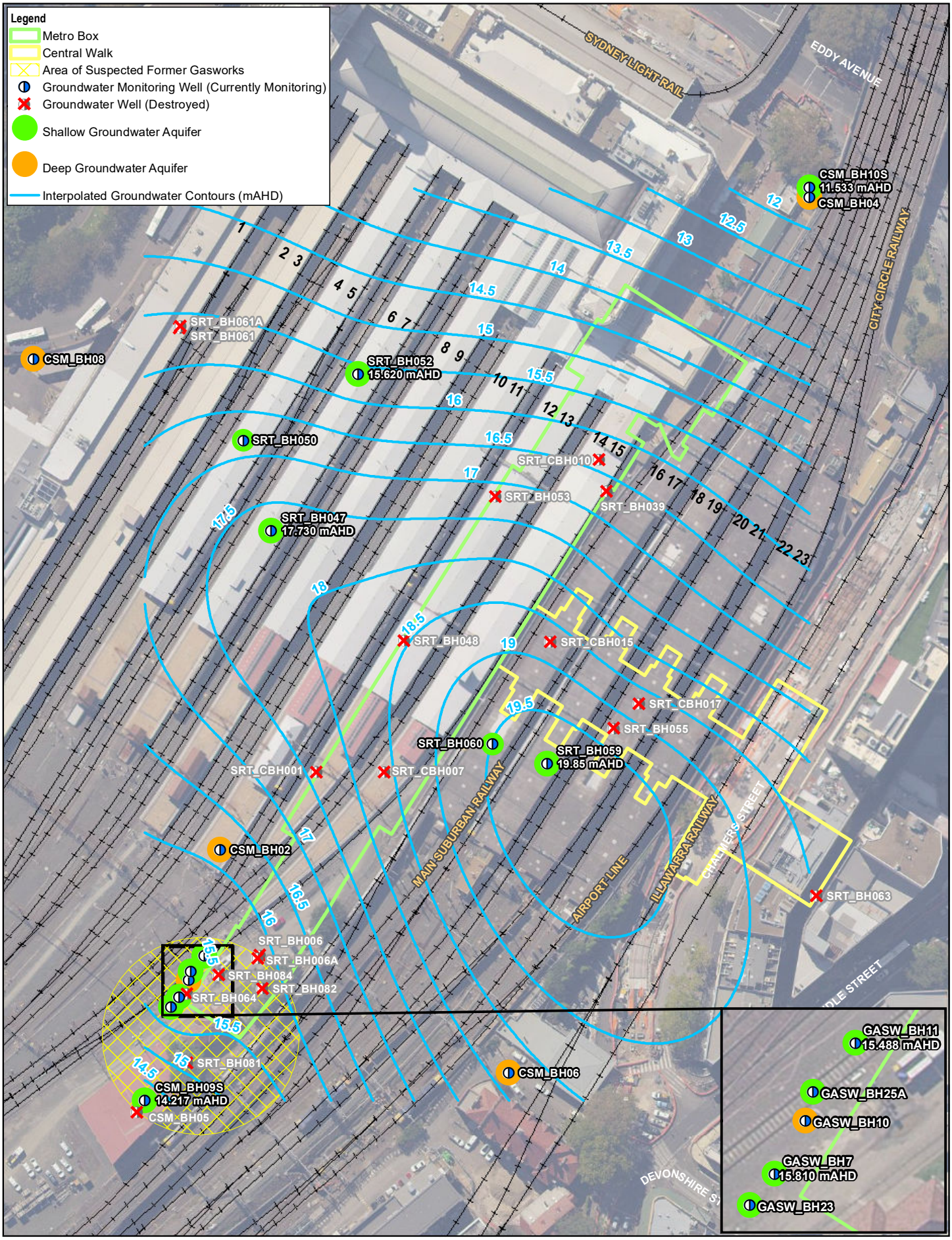
Monitoring Well Locations
(March 2020)

Project No. 21-27234
Revision No. -
Date 06/05/2020

Figure 1

C:\GIS_Local\21-27234 Central

Data source: © Department of Finance, Services & Innovation 2017. Created by: tnham




Paper Size ISO A4

0 10 20 30 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

AGJV

Laing O'Rourke
Central Station Main Works

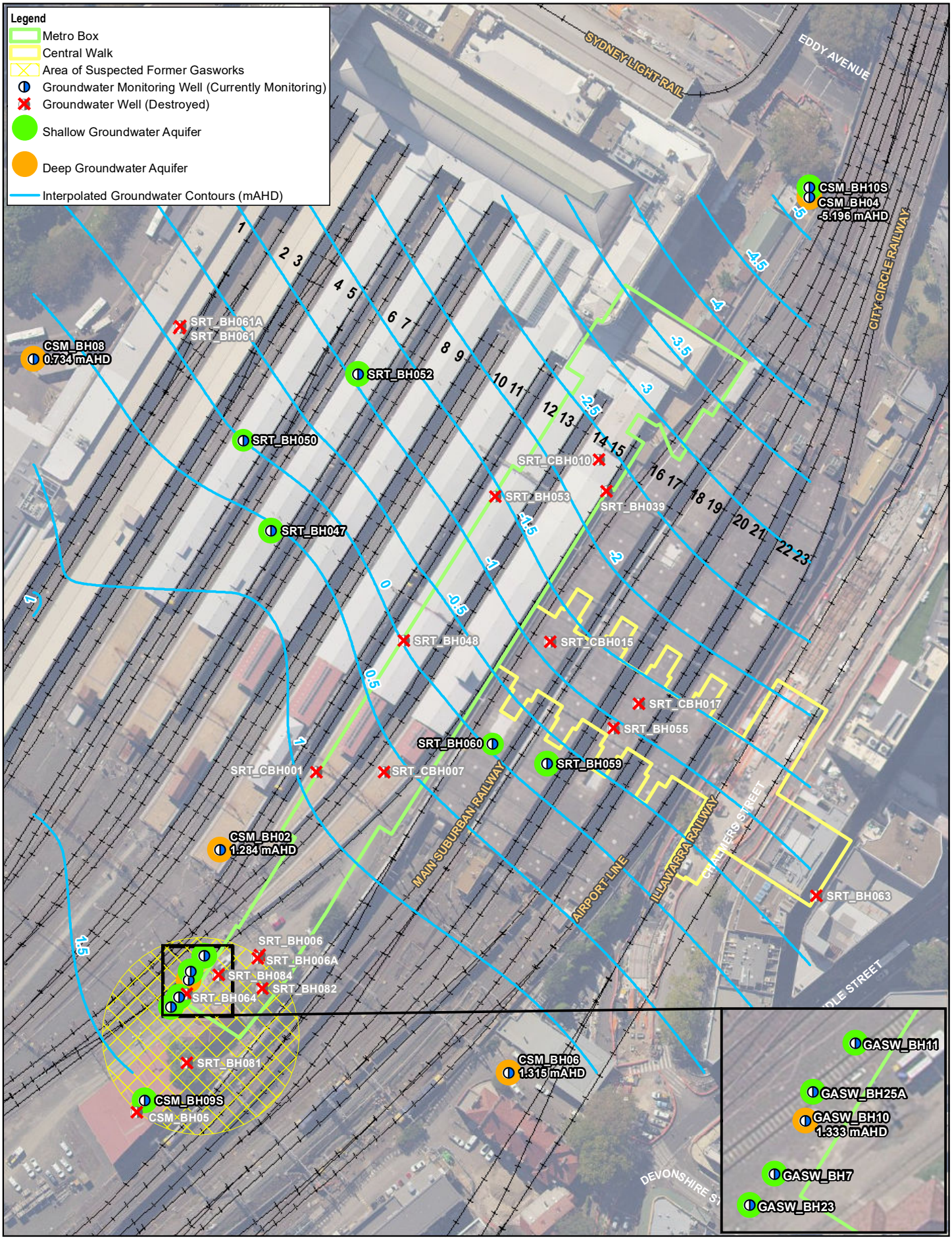
# Interpolated Groundwater Contours - March 2020 (Shallow Aquifer)

Project No. 21-27234
Revision No. -
Date 06/05/2020

**Figure 2**

C:\GIS_Local\21-27234 Central

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Paper Size ISO A4

0 10 20 30 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Laing O'Rourke
Central Station Main Works

# Interpolated Groundwater Contours - March 2020 (Deep Aquifer)

Project No. 21-27234
Revision No. -
Date 06/05/2020

**Figure 3**

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# Appendix B
# Tables

Appendix B
Table B1
Summary of monitoring well status during monitoring program (September 2018 to March 2020)

| Well ID | Approx. Location | Targeted aquifer | Datalogger placed? | Event 1 Sept 2018 | Event 2 Oct 2018 | Event 3 Nov 2018 | Event 4 Dec 2018 | Event 5 Jan 2019 | Event 6 Feb 2019 | Event 7 April 2019 | Event 8 May 2019 | Event 9 June 2019 | Event 10 July 2019 | Event 11 Aug 2019 | Event 12 Sept 2019 | Event 13 Oct 2019 | Event 14 Nov 2019 | Event 15 Dec 2019 | Event 16 Jan 2020 | Event 17 Feb 2020 | Event 18 Mar 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SRT_BH006 | Sydney Yard | Deep | | Not Found / Destroyed | | | | | | | | | | | | | | | | | |
| SRT_BH006A | Sydney Yard | Shallow | | Not Found / Destroyed | | | | | | | | | | | | | | | | | |
| SRT_BH039 | Track 15 | Deep | | Sampled | Sampled | Destroyed | | | | | | | | | | | | | | | |
| SRT_BH047 | Platform 6/7 | Shallow | Logger + Baro | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| SRT_BH048 | Platform 12/13 | Shallow | | Sampled | Sampled | Sampled | Destroyed | | | | | | | | | | | | | | |
| SRT_BH050 | Platform 4/5 | Shallow | | | | | | | | | | | | | | | | | | Sampled | Sampled |
| SRT_BH052 | Platform 6/7 | Shallow | | Covered by Hoarding | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| SRT_BH053 | Platform 12/13 | Deep | | Sampled | Sampled | Covered by Hoarding | Destroyed | | | | | | | | | | | | | | |
| SRT_BH055 | Platform 20/21 | Shallow | | Dry | | | | | | | | | | | | | | | | | |
| SRT_BH059 | Platform 18/19 | Shallow | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| SRT_BH060 | Platform 16/17 | Shallow | | | | | | | | | | | | | | | | | | Sampled | Sampled |
| SRT_BH063 | Off-site Randle Lane | Shallow | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | No Access | No Access | No Access | No Access | No Access | Destroyed | | |
| SRT_BH064 | Sydney Yard | Shallow | | Sampled | Not Found / Destroyed | | | | | | | | | | | | | | | | |
| SRT_BH081 | Sydney Yard | Shallow | | | Not Found / Destroyed | | | | | | | | | | | | | | | | |
| SRT_BH082 | Sydney Yard | Shallow | | | Sampled | Sampled | Not Found / Destroyed | | | | | | | | | | | | | | |
| SRT_BH084 | Sydney Yard | Shallow | | Not Found / Destroyed | | | | | | | | | | | | | | | | | |
| SRT_CBH001 | Platform 12/13 | Shallow | | Sampled | Sampled | Sampled | Destroyed | | | | | | | | | | | | | | |
| SRT_CBH007 | Platform 14/15 | Shallow | | Sampled | Destroyed | | | | | | | | | | | | | | | | |
| SRT_CBH015 | Platform 16/17 | Shallow | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Destroyed | | |
| SRT_CBH017 | Platform 20/21 | Shallow | Logger | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Destroyed | |
| CSM_BH02 | Platform 10/11 | Deep | Logger | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| CSM_BH04 | Eddy Ave Driveway | Deep | Logger | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| CSM_BH05 | Sydney Yard | Deep | | | | | | | | Sampled | Sampled | Sampled | Sampled | Destroyed | | | | | | | |
| CSM_BH06 | Institute Drive | Deep | Logger | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | No Access | Sampled | Sampled |
| CSM_BH08 | Ambulance Ave | Deep | | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| CSM_BH09S | Sydney Yard | Shallow | | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| CSM_BH10S | Eddy Ave Driveway | Shallow | Logger (Jan 2020) | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| GASW_BH7 | Sydney Yard Gasworks | Shallow | | | | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| GASW_BH10 | Sydney Yard Gasworks | Deep | | | | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| GASW_BH11 | Sydney Yard Gasworks | Shallow | | | | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| GASW_BH23 | Sydney Yard Gasworks | Shallow | | | | | | | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |
| GASW_BH25a | Sydney Yard Gasworks | Shallow | | | | | | | | | | | | | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled | Sampled |

| | |
|---|---|
| | Well Sampled |
| | Not Sampled |
| | Not scheduled / available for sampling |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | Iron speciation | Inorganics | | | | Acidity & Alkalinity | | | | Major Ions | | | | | | Nutrients | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ferrous Iron | pH (Lab) | Total Dissolved Solids | Total Suspended Solids | Cyanide (Total) | Alkalinity (Carbonate as CaCO3) | Alkalinity (Bicarbonate as CaCO3) | Alkalinity (Hydroxide as CaCO3) | Alkalinity (total as CaCO3) | Calcium | Magnesium | Potassium | Sodium | Chloride | Sulfate | Ammonia as N | Nitrate (as N) | Arsenic (Filtered) | Cadmium (Filtered) | Chromium (III+VI) (Filtered) | Copper (Filtered) |
| | mg/L | pH Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| EQL | 0.05 | 0.1 | 5 | 1 | 0.004 | 10 | 20 | 20 | 20 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 2 | 0.01 | 0.02 | 0.001 | 0.0002 | 0.001 | 0.001 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | 0.004 | | | | | | | | | | | 0.91 | | | 0.0007[#3] | 0.0044[#4] | 0.0013[#4] |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | *0.8* | | | | | | | | | | *5000* | | | *0.1* | *0.02* | | *20* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | |
| CSM_BH02 | CSM_BH02 | 16/04/2019 | 651825 | Normal | 1.6 | - | - | - | <0.005 | <10 | 110 | - | - | 9.2 | 11 | 2.7 | 61 | 51 | 44 | 0.05 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 14/05/2019 | 656080 | Normal | 1.4 | 8.5 | 410 | 3300 | 0.005 | 11 | 240 | - | - | 43 | 26 | 3.2 | 64 | 68 | 38 | 0.12 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 6/06/2019 | 660130 | Normal | 0.9 | 7.8 | 470 | 970 | <0.005 | <10 | 290 | - | - | 48 | 36 | 6.6 | 110 | 150 | 35 | 0.04 | <0.02 | 0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 30/07/2019 | 669059 | Normal | <0.05 | 8 | 550 | 42,000 | 0.092 | <10 | 350 | - | - | 50 | 43 | 5.8 | 120 | 500 | 24 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 29/08/2019 | 674722 | Normal | <0.05 | 7.9 | 610 | 6400 | <0.005 | <10 | 320 | - | - | 49 | 40 | 5.7 | 120 | 190 | 25 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.002 |
| CSM_BH02 | CSM_BH02 | 26/09/2019 | 679636 | Normal | 1.2 | 7.8 | 440 | 3100 | <0.005 | <10 | 310 | - | - | 44 | 37 | 4.8 | 110 | 160 | 31 | 0.03 | 0.06 | 0.002 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 17/10/2019 | 683453 | Normal | 1.2 | 7.9 | 530 | 4400 | <0.005 | <10 | 290 | - | - | 48 | 39 | 5.7 | 120 | 500 | 28 | 0.06 | 0.04 | 0.002 | <0.0002 | <0.001 | 0.01 |
| CSM_BH02 | CSM_BH02 | 13/11/2019 | 688512 | Normal | 1.8 | 7.9 | 620 | 4600 | <0.005 | <10 | 330 | - | - | 50 | 42 | 5.5 | 120 | 520 | 29 | 0.02 | 0.03 | 0.002 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 17/12/2019 | 694466 | Normal | 0.68 | 8.1 | 290 | 2800 | <0.004 | <10 | 280 | - | - | 33 | 30 | 5 | 78 | 150 | 34 | 0.02 | 0.16 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 21/01/2020 | 698379 | Normal | 1.3 | 4.8 | 560 | 2200 | <0.004 | <10 | 320 | - | - | 41 | 37 | 11 | 120 | 180 | 28 | 0.02 | <0.02 | 0.002 | <0.0002 | <0.001 | <0.001 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 704673 | Normal | 0.1 | 8.3 | 540 | 1600 | <0.004 | - | - | - | - | - | - | - | - | - | - | 0.09 | - | <0.001 | <0.0002 | <0.001 | 0.002 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 290 | - | - | 49 | 37 | 10 | 100 | 190 | 34 | - | 0.04 | - | - | - | - |
| CSM_BH02 | CSM_BH02 | 18/03/2020 | 708508 | Normal | <0.5 | 7 | 870 | 1800 | 0.008 | <10 | 310 | - | - | 43 | 39 | 7.2 | 110 | 150 | 32 | 0.05 | 0.04 | <0.001 | <0.0002 | <0.001 | 0.009 |
| CSM_BH04 | CSM_BH04 | 16/04/2019 | 651825 | Normal | 11 | - | - | - | <0.005 | <10 | 91 | - | - | 5.8 | 11 | 2.5 | 69 | 65 | 55 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 13/05/2019 | 656080 | Normal | 0.12 | 7.3 | 260 | 3700 | <0.005 | <10 | 85 | - | - | 5.2 | 9.5 | 2.4 | 66 | 56 | 56 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.004 |
| CSM_BH04 | CSM_BH04 | 11/06/2019 | 660130 | Normal | 7.7 | 6.7 | 200 | 2700 | <0.005 | <10 | 86 | - | - | 4.5 | 11 | 2.4 | 69 | 63 | 56 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 30/07/2019 | 669059 | Normal | 1 | 7 | 280 | 6500 | 0.035 | <10 | 100 | - | - | 9 | 15 | 3 | 79 | 110 | 38 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 29/08/2019 | 674722 | Normal | 2 | 6.5 | 290 | 630 | <0.005 | <10 | 120 | - | - | 6.3 | 12 | 2.2 | 72 | 55 | 45 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.003 |
| CSM_BH04 | CSM_BH04 | 26/09/2019 | 679636 | Normal | 0.1 | 8.5 | 430 | 260 | <0.005 | 16 | 300 | - | - | 6.5 | 11 | 3.1 | 150 | 74 | 33 | 0.06 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 17/10/2019 | 683453 | Normal | 0.08 | 9.6 | 570 | 290 | <0.005 | 150 | 240 | - | - | 5.9 | 8.8 | 4.8 | 200 | 110 | 34 | 0.22 | 0.15 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | CSM_BH04 | 17/10/2019 | 683453 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 13/11/2019 | 688512 | Normal | 2.8 | 8 | 410 | 350 | <0.005 | <10 | 270 | - | - | 6.9 | 12 | 4.2 | 140 | 71 | 39 | 0.09 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC01 | CSM_BH04 | 13/11/2019 | ES1937682 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | 0.0001 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 17/12/2019 | 694466 | Normal | 9.1 | 7 | 140 | 1000 | <0.004 | <10 | 120 | - | - | 8.5 | 14 | 3.1 | 62 | 89 | 37 | 0.02 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 21/01/2020 | 698379 | Normal | 8.2 | 6.3 | 310 | 880 | <0.004 | <10 | 100 | - | - | 180 | 190 | 170 | 230 | 95 | 44 | 0.02 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | CSM_BH04 | 21/01/2020 | 698379 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 704673 | Normal | 9.4 | 7.3 | 310 | 2500 | <0.004 | - | - | - | - | - | - | - | - | - | - | 0.12 | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 110 | - | - | 8.2 | 15 | 13 | 71 | 140 | 38 | - | <0.02 | - | - | - | - |
| QC02 | CSM_BH04 | 25/02/2020 | 704673 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH04 | CSM_BH04 | 18/03/2020 | 708508 | Normal | 17 | 6.3 | 210 | 1300 | 0.006 | <10 | 100 | - | - | 10 | 17 | 5.5 | 65 | 90 | 38 | 0.11 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.001 |
| CSM_BH05 | CSM_BH05 | 17/04/2019 | 651825 | Normal | 1.1 | - | - | - | <0.005 | <10 | 230 | - | - | 30 | 23 | 6 | 140 | 130 | 78 | <0.01 | <0.02 | 0.002 | <0.0002 | <0.001 | <0.001 |
| CSM_BH05 | CSM_BH05 | 13/05/2019 | 656080 | Normal | 0.99 | 8.2 | 560 | 620 | <0.005 | <10 | 220 | - | - | 33 | 29 | 6.2 | 130 | 190 | 54 | <0.01 | <0.02 | 0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH05 | CSM_BH05 | 11/06/2019 | 660130 | Normal | <0.5 | 7.4 | 520 | 110 | <0.005 | <10 | 240 | - | - | 44 | 39 | 8 | 150 | 220 | 50 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.001 |
| CSM_BH05 | CSM_BH05 | 29/07/2019 | 669059 | Normal | 1 | 7.2 | 500 | 930 | 0.025 | <10 | 170 | - | - | 28 | 30 | 6.3 | 120 | 160 | 50 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH06 | CSM_BH06 | 18/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | <10 | 180 | - | - | 42 | 31 | 5.6 | 110 | 180 | 29 | <0.01 | 0.03 | <0.001 | <0.0002 | <0.001 | 0.009 |
| CSM_BH06 | CSM_BH06 | 14/05/2019 | 656080 | Normal | 2.6 | 8 | 580 | 250 | <0.005 | <10 | 190 | - | - | 41 | 35 | 5.1 | 100 | 220 | 23 | 0.02 | <0.02 | 0.002 | <0.0002 | <0.001 | <0.001 |
| QC02 | CSM_BH06 | 14/05/2019 | 656080 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.002 | <0.0002 | <0.001 | <0.001 |
| CSM_BH06 | CSM_BH06 | 6/06/2019 | 660130 | Normal | 2.9 | 7.2 | 490 | 240 | <0.005 | <10 | 190 | - | - | 43 | 34 | 6.8 | 120 | 210 | 27 | 0.08 | 0.03 | 0.004 | <0.0002 | <0.001 | <0.001 |
| QC04 | CSM_BH06 | 8/06/2019 | 660130 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.004 | <0.0002 | <0.001 | <0.001 |
| CSM_BH06 | CSM_BH06 | 30/07/2019 | 669059 | Normal | 0.56 | 7.3 | 600 | 960 | 0.029 | <10 | 180 | - | - | 39 | 35 | 4.9 | 110 | 180 | 22 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH06 | CSM_BH06 | 28/08/2019 | 674722 | Normal | <0.05 | 8 | 600 | 810 | <0.005 | <10 | 210 | - | - | 41 | 34 | 5.2 | 110 | 200 | 22 | <0.01 | 0.03 | <0.001 | <0.0002 | <0.001 | 0.01 |
| CSM_BH06 | CSM_BH06 | 26/09/2019 | 679636 | Normal | 0.59 | 6.9 | 390 | 180 | <0.005 | <10 | 150 | - | - | 29 | 22 | 4.4 | 71 | 140 | 15 | <0.01 | 0.09 | <0.001 | <0.0002 | 0.007 | 0.043 |
| CSM_BH06 | CSM_BH06 | 17/10/2019 | 683453 | Normal | 2 | 7.2 | 550 | 91 | <0.005 | <10 | 190 | - | - | 39 | 32 | 4.9 | 96 | 170 | 21 | 0.04 | <0.02 | <0.001 | <0.0002 | 0.003 | 0.015 |
| CSM_BH06 | CSM_BH06 | 13/11/2019 | 688512 | Normal | 2.7 | 7.4 | 570 | 66 | <0.005 | <10 | 200 | - | - | 43 | 35 | 5.1 | 100 | 210 | 26 | 0.03 | <0.02 | 0.001 | <0.0002 | <0.001 | 0.013 |
| CSM_BH06 | CSM_BH06 | 17/12/2019 | 694466 | Normal | 2.5 | 7 | 590 | 62 | <0.004 | <10 | 180 | - | - | 32 | 30 | 5.1 | 83 | 570 | 26 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.031 |
| QC01 | CSM_BH06 | 17/12/2019 | 694466 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | 0.031 |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 704673 | Normal | 6.2 | 7.7 | 560 | 69 | <0.004 | - | - | - | - | - | - | - | - | - | - | <0.01 | - | 0.002 | <0.0002 | <0.001 | 0.01 |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 140 | - | - | 37 | 33 | <5 | 120 | 590 | 31 | - | 0.02 | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 16/03/2020 | 708508 | Normal | 5.3 | 6.3 | 430 | 110 | 0.005 | <10 | 120 | - | - | 28 | 30 | 4.6 | 110 | 220 | 24 | 0.05 | <0.02 | 0.002 | <0.0002 | <0.001 | 0.002 |
| QC01 | CSM_BH06 | 16/03/2020 | ES2009232 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.001 | <0.0001 | <0.001 | 0.006 |
| CSM_BH08 | CSM_BH08 | 18/04/2019 | 651825 | Normal | 6.2 | - | - | - | <0.005 | <10 | 120 | - | - | 13 | 16 | 4.1 | 79 | 93 | 41 | 0.06 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | CSM_BH08 | 18/04/2019 | 651825 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH08 | CSM_BH08 | 15/05/2019 | 656080 | Normal | 5 | 7.9 | 310 | 180 | <0.005 | <10 | 120 | - | - | 11 | 16 | 3.3 | 71 | 92 | 42 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH08 | CSM_BH08 | 6/06/2019 | 660130 | Normal | 3.5 | 7.2 | 250 | 73 | <0.005 | <10 | 110 | - | - | 49 | 28 | 11 | 71 | 90 | 42 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC03 | CSM_BH08 | 6/06/2019 | ES1917968 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH08 | CSM_BH08 | 30/07/2019 | 669059 | Normal | 4.4 | 7.3 | 350 | 6.2 | 0.019 | <10 | 190 | - | - | 19 | 22 | 4.4 | 83 | 110 | 37 | 0.02 | 0.06 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH08 | CSM_BH08 | 29/08/2019 | 674722 | Normal | 6.6 | 7.4 | 420 | 34 | <0.005 | <10 | 160 | - | - | 17 | 23 | 4.3 | 93 | 110 | 32 | 0.03 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.021 |
| CSM_BH08 | CSM_BH08 | 26/09/2019 | 679636 | Normal | 6.2 | 7.2 | 280 | 35 | <0.005 | <10 | 130 | - | - | 11 | 17 | 3.1 | 78 | 94 | 41 | 0.02 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.001 |
| CSM_BH08 | CSM_BH08 | 18/10/2019 | 683453 | Normal | 6.2 | 7.5 | 330 | 9.4 | <0.005 | <10 | 99 | - | - | 11 | 15 | 3.4 | 75 | 120 | 43 | 0.03 | 0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH08 | CSM_BH08 | 13/11/2019 | 688512 | Normal | 5.7 | 7.5 | 310 | 5.9 | <0.005 | <10 | 100 | - | - | 11 | 15 | 3.5 | 77 | 100 | 43 | 0.01 | 0.03 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH08 | CSM_BH08 | 16/12/2019 | 694466 | Normal | 5.4 | 7.1 | 250 | 8.8 | <0.004 | <10 | 110 | - | - | 11 | 13 | 3.7 | 59 | 110 | 48 | <0.01 | 0.1 | <0.001 | <0.0002 | <0.001 | 0.005 |
| CSM_BH08 | CSM_BH08 | 21/01/2020 | 698379 | Normal | 5.6 | 6.4 | 260 | 10 | <0.004 | <10 | 110 | - | - | 9.5 | 14 | 3.1 | 68 | 160 | 47 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.001 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 704673 | Normal | 4.8 | 6.7 | 340 | 15 | <0.004 | - | - | - | - | - | - | - | - | - | - | <0.01 | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 110 | - | - | 12 | 16 | <5 | 84 | 93 | 45 | - | 0.05 | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 18/03/2020 | 708508 | Normal | 3.4 | 6.4 | 270 | 130 | 0.005 | <10 | 85 | - | - | 8.9 | 14 | 3.4 | 77 | 92 | 45 | 0.08 | 0.03 | <0.001 | <0.0002 | <0.001 | 0.001 |
| CSM_BH09S | CSM_BH09S | 17/04/2019 | 651825 | Normal | 9.4 | - | - | - | <0.005 | <10 | 38 | - | - | 13 | 11 | 7.1 | 120 | 79 | 270 | 0.2 | 0.59 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC01 | CSM_BH09S | 17/04/2019 | ES1912362 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH09S | CSM_BH09S | 13/05/2019 | 656080 | Normal | 7.1 | 7.4 | 460 | 66 | <0.005 | <10 | 76 | - | - | 6.2 | 7.3 | 4.5 | 100 | 57 | 190 | 0.1 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC01 | CSM_BH09S | 13/05/2019 | ES1914810 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH09S | CSM_BH09S | 11/06/2019 | 660130 | Normal | 3.4 | 6.6 | 390 | 46 | <0.005 | <10 | 66 | - | - | 12 | 8.7 | 7.2 | 130 | 72 | 210 | 0.1 | 0.31 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH09S | CSM_BH09S | 29/07/2019 | 669059 | Normal | 7.2 | 6.7 | 460 | 58 | 0.01 | <10 | 59 | - | - | 7.8 | 8.5 | 4.7 | 120 | 88 | 210 | 0.08 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.002 |
| QC01 | CSM_BH09S | 29/07/2019 | ES1924197 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | 0.005 |
| CSM_BH09S | CSM_BH09S | 28/08/2019 | 674722 | Normal | 4.6 | 6.8 | 440 | 87 | <0.005 | <10 | 61 | - | - | 5.1 | 6.6 | 3.6 | 110 | 49 | 160 | 0.04 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.001 |
| QC01 | CSM_BH09S | 28/08/2019 | EM1914568 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH09S | CSM_BH09S | 25/09/2019 | 679636 | Normal | 4.7 | 6.6 | 390 | 49 | <0.005 | <10 | 49 | - | - | 6.4 | 7.9 | 3.4 | 120 | 56 | 220 | 0.03 | 0.32 | <0.001 | <0.0002 | <0.001 | 0.002 |
| QC01 | CSM_BH09S | 25/09/2019 | ES1931406 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | 0.001 |
| CSM_BH09S | CSM_BH09S | 16/10/2019 | 683453 | Normal | 4 | 6.7 | 420 | 37 | <0.005 | <10 | 39 | - | - | 6.1 | 8 | 3.5 | 110 | 100 | 200 | 0.02 | 0.18 | <0.001 | <0.0002 | <0.001 | 0.002 |
| CSM_BH09S | CSM_BH09S | 14/11/2019 | 688512 | Normal | 6.5 | 7 | 400 | 55 | <0.005 | <10 | 55 | - | - | 5.5 | 8.4 | 3.4 | 110 | 65 | 180 | 0.03 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.002 |
| CSM_BH09S | CSM_BH09S | 16/12/2019 | 694466 | Normal | 6.4 | 6.7 | 380 | 48 | <0.004 | <10 | 75 | - | - | 4.1 | 6.7 | 2.7 | 88 | 48 | 150 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | CSM_BH09S | 16/12/2019 | ES1941823 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH09S | CSM_BH09S | 21/01/2020 | 698379 | Normal | 7.5 | 6.1 | 340 | 28 | <0.004 | <10 | 77 | - | - | 3.7 | 6.2 | 2.6 | 97 | 46 | 160 | 0.05 | 0.02 | <0.001 | <0.0002 | <0.001 | 0.002 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 704673 | Normal | 7.7 | 7.1 | 370 | 21 | <0.004 | - | - | - | - | - | - | - | - | - | - | 0.05 | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 76 | - | - | 3.3 | 6.4 | <5 | 110 | 52 | 150 | - | <0.02 | - | - | - | - |
| QC01 | CSM_BH09S | 24/02/2020 | ES2006512 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH09S | CSM_BH09S | 17/03/2020 | 708508 | Normal | 5.6 | 6.1 | 330 | 59 | 0.005 | <10 | 60 | - | - | 3.3 | 6.9 | 3 | 100 | 46 | 120 | 0.05 | <0.02 | 0.001 | <0.0002 | <0.001 | 0.009 |
| CSM_BH10S | CSM_BH10S | 16/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | <10 | 23 | - | - | 3.4 | 5.5 | 3.1 | 49 | 38 | 85 | <0.01 | 1.6 | <0.001 | <0.0002 | <0.001 | 0.002 |
| CSM_BH10S | CSM_BH10S | 13/05/2019 | 656080 | Normal | 0.13 | 6.6 | 270 | 210 | <0.005 | <10 | <20 | - | - | 4 | 5.6 | 3.3 | 45 | 130 | 350 | <0.01 | 1.7 | <0.001 | <0.0002 | <0.001 | 0.003 |
| CSM_BH10S | CSM_BH10S | 11/06/2019 | 660130 | Normal | <0.5 | 5.9 | 140 | 210 | <0.005 | <10 | <20 | - | - | 3.7 | 6.1 | 4.8 | 42 | 37 | 66 | 0.06 | 2.3 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH10S | CSM_BH10S | 30/07/2019 | 669059 | Normal | <0.05 | 6.7 | 220 | 200 | 0.014 | <10 | 35 | - | - | 6.9 | 6.4 | 3.6 | 38 | 36 | 61 | <0.01 | 2.3 | <0.001 | <0.0002 | <0.001 | 0.003 |
| CSM_BH10S | CSM_BH10S | 29/08/2019 | 674722 | Normal | <0.05 | 6.1 | 240 | 170 | <0.005 | <10 | 20 | - | - | 3.9 | 5.5 | 2.9 | 39 | 19 | 57 | <0.01 | 2 | <0.001 | <0.0002 | <0.001 | 0.004 |
| CSM_BH10S | CSM_BH10S | 25/09/2019 | 679636 | Normal | <0.05 | 6.6 | 150 | 140 | <0.005 | <10 | 25 | - | - | 3.9 | 5.4 | 2.3 | 34 | 20 | 56 | <0.01 | 1.8 | <0.001 | <0.0002 | <0.001 | 0.001 |
| CSM_BH10S | CSM_BH10S | 16/10/2019 | 683453 | Normal | 0.11 | 6.5 | 190 | 210 | <0.005 | <10 | 20 | - | - | 3.5 | 5.3 | 2.5 | 34 | 70 | 55 | <0.01 | 1.6 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC01 | CSM_BH10S | 16/10/2019 | ES1934142 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH10S | CSM_BH10S | 14/11/2019 | 688512 | Normal | <0.05 | 6.2 | 170 | 69 | <0.005 | <10 | <20 | - | - | 3.4 | 5.1 | 2.3 | 35 | 45 | 56 | <0.01 | 1.1 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | CSM_BH10S | 14/11/2019 | 688512 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH10S | CSM_BH10S | 17/12/2019 | 694466 | Normal | 0.16 | 6.1 | 200 | 260 | <0.004 | <10 | 21 | - | - | 3.2 | 4.6 | 2.3 | 18 | 16 | 54 | <0.01 | 0.89 | <0.001 | <0.0002 | <0.001 | <0.001 |
| CSM_BH10S | CSM_BH10S | 20/01/2020 | 698379 | Normal | <0.05 | 6 | 160 | 77 | <0.004 | <10 | <20 | - | - | 2.9 | 4.6 | 2.1 | 27 | 16 | 55 | 0.02 | 0.93 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC01 | CSM_BH10S | 20/01/2020 | ES2001825 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | <0.001 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 704673 | Normal | 0.05 | 6.7 | 200 | 97 | <0.004 | - | - | - | - | - | - | - | - | - | - | <0.01 | - | <0.001 | <0.0002 | <0.001 | 0.003 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 22 | - | - | <5 | 6.6 | <5 | 34 | 24 | 55 | - | 1.5 | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/03/2020 | 708508 | Normal | <0.5 | 5.7 | 170 | 53 | 0.005 | <10 | 25 | - | - | 4.4 | 6 | 3 | 31 | 23 | 58 | 0.03 | 1.7 | <0.001 | <0.0002 | <0.001 | 0.001 |
| QC02 | CSM_BH10S | 17/03/2020 | 708508 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 5/06/2019 | 659250 | Normal | <0.5 | 7.8 | 560 | 84 | 0.005 | <10 | 310 | <20 | 310 | 44 | 34 | 18 | 130 | 150 | 42 | 0.02 | - | 0.002 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 30/07/2019 | 669059 | Normal | 3.7 | 7 | 610 | 150 | <0.005 | <10 | 330 | - | - | 48 | 43 | 9.7 | 130 | 160 | <5 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | Iron speciation | Inorganics | | | | Acidity & Alkalinity | | | | Major Ions | | | | | | Nutrients | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ferrous Iron | pH (Lab) | Total Dissolved Solids | Total Suspended Solids | Cyanide (Total) | Alkalinity (Carbonate as CaCO3) | Alkalinity (Bicarbonate as CaCO3) | Alkalinity (Hydroxide as CaCO3) | Alkalinity (total as CaCO3) | Calcium | Magnesium | Potassium | Sodium | Chloride | Sulfate | Ammonia as N | Nitrate (as N) | Arsenic (Filtered) | Cadmium (Filtered) | Chromium (III+VI) (Filtered) | Copper (Filtered) |
| | mg/L | pH Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| EQL | 0.05 | 0.1 | 5 | 1 | 0.004 | 10 | 20 | 20 | 20 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 2 | 0.01 | 0.02 | 0.001 | 0.0002 | 0.001 | 0.001 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | 0.004 | | | | | | | | | | | 0.91 | | | 0.0007[#3] | 0.0044[#4] | 0.0013[#4] |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | *0.8* | | | | | | | | | | *5000* | | | *0.1* | *0.02* | | *20* |

| Field_ID | Location_Code | Sampled_Date_Time | Lab_Report_Number | Sample_Type | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GASW_BH10 | GASW_BH10 | 28/08/2019 | 674722 | Normal | 4.2 | 7.7 | 1100 | 260 | <0.005 | <10 | 440 | - | - | 41 | 40 | 29 | 150 | 170 | <5 | 0.16 | <0.02 | 0.002 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 26/09/2019 | 679636 | Normal | 11 | 7.4 | 920 | 290 | <0.005 | <10 | 450 | - | - | 71 | 52 | 15 | 150 | 180 | <5 | <0.01 | <0.02 | 0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 17/10/2019 | 683453 | Normal | 9 | 7.4 | 830 | 280 | <0.005 | <10 | 370 | - | - | 67 | 47 | 9.4 | 130 | 170 | <5 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 13/11/2019 | 688512 | Normal | 11 | 7.1 | 930 | 200 | <0.005 | <10 | 440 | - | - | 82 | 58 | 15 | 150 | 730 | <5 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 16/12/2019 | 694466 | Normal | 18 | 6.7 | 1200 | 64 | <0.004 | <10 | 520 | - | - | 88 | 67 | 14 | 140 | 110 | <5 | 0.05 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 21/01/2020 | 698379 | Normal | 19 | 6.8 | 890 | 170 | <0.004 | <10 | 560 | - | - | 110 | 72 | 17 | 150 | 910 | <5 | 0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 704673 | Normal | 15 | 7.8 | 1100 | 85 | <0.004 | - | - | - | - | - | - | - | - | - | - | 0.02 | - | 0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 530 | - | - | 95 | 54 | 21 | 170 | 200 | <5 | - | <0.02 | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 18/03/2020 | 708508 | Normal | 8.6 | 6.5 | 1000 | 250 | 0.005 | <10 | 460 | - | - | 98 | 56 | 15 | 140 | 190 | <2 | 0.02 | <0.02 | 0.002 | <0.0002 | <0.001 | <0.001 |
| GASW_BH11 | GASW_BH11 | 5/06/2019 | 659250 | Normal | 2.5 | 6.1 | 210 | 300 | 0.013 | <10 | 71 | <20 | 71 | 5.1 | 8 | 2.7 | 57 | 43 | 42 | <0.01 | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | GASW_BH11 | 5/06/2019 | 659250 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH11 | GASW_BH11 | 30/07/2019 | 669059 | Normal | 3.1 | 6.3 | 210 | 44 | <0.005 | <10 | 70 | - | - | 4.4 | 8.4 | 2 | 56 | 100 | 59 | 0.03 | <0.02 | <0.001 | <0.0002 | <0.001 | <0.001 |
| GASW_BH11 | GASW_BH11 | 28/08/2019 | 674722 | Normal | 1.2 | 6.6 | 250 | 22 | <0.005 | <10 | 55 | - | - | 5.3 | 7.1 | 1.7 | 52 | 39 | 48 | 0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.003 |
| GASW_BH11 | GASW_BH11 | 25/09/2019 | 679636 | Normal | 1.1 | 6.3 | 130 | 28 | <0.005 | <10 | 41 | - | - | 4.7 | 6.7 | 1.3 | 45 | 37 | 46 | 0.03 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.003 |
| GASW_BH11 | GASW_BH11 | 16/10/2019 | 683453 | Normal | 1.2 | 6.5 | 200 | 11 | <0.005 | <10 | 37 | - | - | 4.5 | 6.3 | 1.4 | 46 | 74 | 50 | 0.04 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.003 |
| GASW_BH11 | GASW_BH11 | 14/11/2019 | 688512 | Normal | 1.9 | 6.5 | 170 | 1600 | <0.005 | <10 | 53 | - | - | 5 | 7 | 1.9 | 50 | 97 | 51 | 0.02 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.001 |
| GASW_BH11 | GASW_BH11 | 16/12/2019 | 694466 | Normal | 3.8 | 6.2 | 180 | 28 | <0.004 | <10 | 55 | - | - | 4.1 | 6 | 1.6 | 48 | 68 | 54 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.005 |
| GASW_BH11 | GASW_BH11 | 22/01/2020 | 698379 | Normal | 1.6 | 6.1 | 180 | 120 | <0.004 | <10 | 38 | - | - | 7.7 | 4.7 | 1.6 | 38 | 81 | 52 | 0.02 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.002 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 704673 | Normal | 1.8 | 6.8 | 290 | 200 | <0.004 | - | - | - | - | - | - | - | - | - | - | 0.08 | - | 0.001 | <0.0002 | <0.001 | 0.003 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 96 | - | - | 27 | 6.1 | <5 | 34 | 44 | 48 | - | 0.02 | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 17/03/2020 | 708508 | Normal | 2.1 | 6 | 190 | 300 | 0.005 | <10 | 240 | - | - | 15 | 6.3 | 3.3 | 41 | 44 | 44 | 0.06 | <0.02 | 0.002 | <0.0002 | <0.001 | 0.013 |
| GASW_BH23 | GASW_BH23 | 25/09/2019 | 679636 | Normal | 10 | 7.6 | 640 | 480 | <0.005 | <10 | 180 | - | - | 160 | 14 | 13 | 39 | 19 | 380 | 0.25 | <0.02 | 0.004 | <0.0002 | <0.001 | 0.002 |
| GASW_BH23 | GASW_BH23 | 16/10/2019 | 683453 | Normal | 9.8 | 7.7 | 710 | 25 | 0.006 | <10 | 190 | - | - | 150 | 12 | 11 | 31 | 45 | 330 | 0.52 | <0.02 | 0.004 | <0.0002 | <0.001 | <0.001 |
| GASW_BH23 | GASW_BH23 | 14/11/2019 | 688512 | Normal | 7.8 | 8.1 | 710 | 23 | 0.026 | <10 | 210 | - | - | 170 | 14 | 19 | 48 | 33 | 320 | 0.66 | <0.02 | 0.004 | <0.0002 | <0.001 | <0.001 |
| GASW_BH23 | GASW_BH23 | 16/12/2019 | 694466 | Normal | 0.16 | 11 | 290 | 2.4 | 0.013 | 86 | <20 | - | - | 37 | <0.5 | 15 | 50 | 35 | 97 | 0.27 | 0.97 | 0.005 | <0.0002 | 0.003 | 0.002 |
| GASW_BH23 | GASW_BH23 | 22/01/2020 | 698379 | Normal | 3 | 8.1 | 580 | 10 | 0.012 | <10 | 3000 | - | - | 130 | 11 | 12 | 32 | 21 | 270 | 0.72 | <0.02 | 0.005 | <0.0002 | <0.001 | <0.001 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 704673 | Normal | 4.6 | 8.1 | 420 | 780 | 0.11 | - | - | - | - | - | - | - | - | - | - | 1.3 | - | 0.005 | <0.0002 | <0.001 | <0.001 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 320 | - | - | 120 | 12 | 25 | 61 | 70 | 120 | - | 0.03 | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 17/03/2020 | 708508 | Normal | 1.3 | 7.1 | 360 | 28 | 0.009 | <10 | 160 | - | - | 82 | 6.8 | 8.7 | 25 | 13 | 120 | 0.31 | <0.02 | 0.005 | <0.0002 | <0.001 | 0.001 |
| GASW_BH25A | GASW_BH25A | 25/09/2019 | 679636 | Normal | 0.31 | 7.5 | 460 | 21 | 0.023 | <10 | 97 | - | - | 97 | 6.1 | 6.6 | 47 | 26 | 260 | 0.39 | <0.02 | 0.006 | <0.0002 | <0.001 | 0.003 |
| GASW_BH25a | GASW_BH25A | 16/10/2019 | 683453 | Normal | 0.15 | 8.1 | 360 | 37 | 0.009 | <10 | 110 | - | - | 67 | 4.4 | 5.5 | 28 | 48 | 140 | 0.42 | 0.03 | 0.005 | <0.0002 | <0.001 | <0.001 |
| GASW_BH25A | GASW_BH25A | 14/11/2019 | 688512 | Normal | 0.35 | 8.3 | 410 | 53 | 0.032 | <10 | 120 | - | - | 86 | 5.5 | 6.8 | 31 | 85 | 180 | 0.46 | <0.02 | 0.006 | <0.0002 | <0.001 | 0.008 |
| GASW_BH25A | GASW_BH25A | 16/12/2019 | 694466 | Normal | 0.26 | 8.2 | 450 | 21 | 0.074 | <10 | 110 | - | - | 100 | 5.6 | 7.9 | 30 | 25 | 230 | 0.74 | <0.02 | 0.006 | <0.0002 | <0.001 | <0.001 |
| GASW_BH25A | GASW_BH25A | 22/01/2020 | 698379 | Normal | 0.95 | 6.6 | 430 | 130 | 0.16 | <10 | 180 | - | - | 84 | 5.9 | 6.1 | 20 | 15 | 130 | 0.23 | <0.02 | 0.012 | <0.0002 | <0.001 | <0.001 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 704673 | Normal | 8.3 | 7.2 | 380 | 340 | 0.055 | - | - | - | - | - | - | - | - | - | - | 0.17 | - | 0.011 | <0.0002 | <0.001 | <0.001 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 170 | - | - | 81 | 5.8 | <5 | 20 | 63 | 97 | - | <0.02 | - | - | - | - |
| GASW_BH25a | GASW_BH25A | 17/03/2020 | 708508 | Normal | <0.5 | 7.3 | 220 | 16 | 0.032 | <10 | 99 | - | - | 41 | 3.1 | 4.2 | 20 | 11 | 47 | 0.27 | 0.13 | 0.008 | <0.0002 | <0.001 | 0.008 |
| GASW_BH7 | GASW_BH7 | 5/06/2019 | 659250 | Normal | 5.4 | 5.6 | 310 | 28 | <0.005 | <10 | 35 | <20 | 35 | 27 | 5.1 | 1.2 | 61 | 38 | 140 | <0.01 | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC01 | GASW_BH7 | 5/06/2019 | ES1917381 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | 0.0001 | 0.001 | <0.001 |
| GASW_BH7 | GASW_BH7 | 30/07/2019 | 669059 | Normal | 17 | 3.9 | 280 | 20 | 0.006 | <10 | <20 | - | - | 5.4 | 4.8 | 0.8 | 63 | 41 | 150 | 0.03 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.007 |
| GASW_BH7 | GASW_BH7 | 28/08/2019 | 674722 | Normal | 19 | 3.5 | 330 | 14 | <0.005 | <10 | <20 | - | - | 3.7 | 4.8 | 0.7 | 64 | 29 | 150 | 0.03 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.019 |
| GASW_BH7 | GASW_BH7 | 25/09/2019 | 679636 | Normal | 12 | 3.5 | 260 | 27 | <0.005 | <10 | <20 | - | - | 4.3 | 4.2 | 0.5 | 69 | 35 | 160 | 0.02 | 0.05 | <0.001 | <0.0002 | <0.001 | 0.007 |
| GASW_BH7 | GASW_BH7 | 16/10/2019 | 683453 | Normal | 14 | 3.6 | 310 | 19 | <0.005 | <10 | <20 | - | - | 2.7 | 4.3 | 0.5 | 63 | 49 | 160 | 0.03 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.004 |
| GASW_BH7 | GASW_BH7 | 14/11/2019 | 688512 | Normal | 16 | 4 | 280 | 8.3 | <0.005 | <10 | <20 | - | - | 2.7 | 4.2 | 0.6 | 65 | 28 | 150 | 0.02 | 0.04 | <0.001 | <0.0002 | <0.001 | 0.003 |
| GASW_BH7 | GASW_BH7 | 16/12/2019 | 694466 | Normal | 14 | 3.5 | 260 | 18 | <0.004 | <10 | <20 | - | - | 3.1 | 3.4 | 0.6 | 47 | 68 | 150 | 0.04 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.008 |
| GASW_BH7 | GASW_BH7 | 22/01/2020 | 698379 | Normal | 12 | 3.7 | 550 | 33 | <0.004 | <10 | <20 | - | - | 3.8 | 3.9 | 0.6 | 57 | 100 | 150 | 0.04 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.009 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 704673 | Normal | 18 | 3.8 | 340 | 28 | <0.004 | - | - | - | - | - | - | - | - | - | - | 0.05 | - | <0.001 | <0.0002 | <0.001 | 0.002 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | <20 | - | - | <5 | 5.1 | <5 | 60 | 40 | 140 | - | 0.02 | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 17/03/2020 | 708508 | Normal | 1.3 | 3.9 | 180 | 67 | 0.005 | <10 | <20 | - | - | 1.8 | 5.1 | 1 | 54 | 25 | 110 | 0.09 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.012 |
| SRT-BH039 | SRT_BH039 | 7/09/2018 | 616629 | Normal | - | - | - | - | 0.007 | 80 | <20 | - | - | 460 | <0.5 | 160 | 140 | 28 | 940 | 0.7 | 1.3 | <0.001 | <0.0002 | 0.003 | 0.03 |
| QA02 | SRT_BH039 | 7/09/2018 | ES1826658 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | 0.003 | 0.014 |
| SRT-BH039 | SRT_BH039 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | 70 | <20 | - | - | 460 | <0.5 | 110 | 98 | 45 | 720 | 1 | 0.05 | <0.001 | <0.0002 | 0.001 | 0.008 |
| QA02 | SRT_BH039 | 26/10/2018 | ES1832040 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | 0.001 | 0.002 |
| SRT-BH047 | SRT_BH047 | 6/09/2018 | 616629 | Normal | - | - | - | - | <0.005 | <10 | 140 | - | - | 64 | 8.1 | 1 | 34 | 27 | 7.6 | <0.01 | 21 | <0.001 | <0.0002 | <0.001 | 0.018 |
| SRT-BH047 | SRT_BH047 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | 160 | - | - | 58 | 6.1 | 0.9 | 32 | 25 | 14 | <0.01 | 18 | <0.001 | <0.0002 | <0.001 | 0.004 |
| SRT_BH047 | SRT_BH047 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | 170 | - | - | 53 | 6.9 | 0.9 | 31 | 39 | 12 | <0.01 | 17 | <0.001 | <0.0002 | <0.001 | 0.022 |
| SRT_BH047 | SRT_BH047 | 18/12/2018 | 634274 | Normal | 0.06 | - | - | - | <0.005 | <10 | 63 | - | - | 35 | 8 | 1.6 | 31 | 33 | 16 | <0.01 | 22 | <0.001 | <0.0002 | <0.001 | 0.021 |
| SRT_BH047 | SRT_BH047 | 17/01/2019 | 636542 | Normal | 0.05 | - | - | - | 0.02 | <10 | 190 | - | - | 61 | 6.8 | 0.9 | 29 | 23 | 11 | <0.01 | 19 | <0.001 | <0.0002 | <0.001 | 0.016 |
| SRT_BH047 | SRT_BH047 | 20/02/2019 | 641720 | Normal | <0.05 | - | - | - | <0.005 | <10 | 100 | - | - | 26 | 6.6 | 1.3 | 53 | 26 | 12 | <0.01 | 19 | <0.001 | <0.0002 | <0.001 | 0.018 |
| SRT_BH047 | SRT_BH047 | 16/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | <10 | 62 | - | - | 24 | 9.6 | 1.8 | 37 | 33 | 15 | <0.01 | 25 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH047 | SRT_BH047 | 14/05/2019 | 656080 | Normal | <0.05 | 8.1 | 360 | 40 | <0.005 | <10 | 120 | - | - | 51 | 9.7 | 1.2 | 34 | 43 | 11 | <0.01 | 23 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH047 | SRT_BH047 | 7/06/2019 | 660130 | Normal | <0.5 | 8 | 230 | 48 | <0.005 | <10 | 98 | - | - | 37 | 10 | 1.1 | 35 | 26 | 11 | <0.01 | 23 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_BH047 | SRT_BH047 | 31/07/2019 | 669059 | Normal | <0.05 | 7.6 | 270 | 65 | 0.008 | <10 | 88 | - | - | 43 | 11 | 1.6 | 35 | 50 | 13 | <0.01 | 22 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_BH047 | SRT_BH047 | 30/08/2019 | 674722 | Normal | <0.05 | 8.1 | 360 | 51 | <0.005 | <10 | 120 | - | - | 50 | 8.6 | 0.9 | 33 | 22 | 10 | <0.01 | 22 | <0.001 | <0.0002 | <0.001 | 0.003 |
| SRT_BH047 | SRT_BH047 | 27/09/2019 | 679636 | Normal | <0.05 | 7.7 | 270 | 22 | <0.005 | <10 | 140 | - | - | 51 | 8 | 0.8 | 31 | 25 | 11 | <0.01 | 21 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_BH047 | SRT_BH047 | 18/10/2019 | 683453 | Normal | 0.06 | 7.8 | 340 | 68 | <0.005 | <10 | 92 | - | - | 50 | 7.4 | 0.8 | 30 | 34 | 11 | <0.01 | 15 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH047 | SRT_BH047 | 15/11/2019 | 688512 | Normal | <0.05 | 8.3 | 330 | 89 | <0.005 | <10 | 120 | - | - | 54 | 8.8 | 1 | 32 | 52 | 9.5 | <0.01 | 21 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH047 | SRT_BH047 | 18/12/2019 | 694466 | Normal | <0.05 | 8.3 | 290 | 100 | <0.004 | <10 | 130 | - | - | 49 | 9.2 | 0.9 | 16 | 46 | 12 | 0.02 | 19 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_BH047 | SRT_BH047 | 20/01/2020 | 698379 | Normal | <0.05 | 7.7 | 340 | 1700 | <0.004 | <10 | 240 | - | - | 49 | 9.7 | 0.8 | 26 | 60 | 11 | 0.03 | 22 | <0.001 | <0.0002 | <0.001 | 0.004 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 704673 | Normal | <0.05 | 7.7 | 170 | <1 | <0.004 | - | - | - | - | - | - | - | - | - | - | <0.01 | - | <0.001 | <0.0002 | <0.001 | 0.004 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 49 | - | - | 19 | 9.5 | <5 | 26 | 83 | 27 | - | 23 | - | - | - | - |
| SRT_BH047 | SRT_BH047 | 16/03/2020 | 708508 | Normal | <0.5 | 7 | 230 | 14 | <0.004 | <10 | 60 | - | - | 29 | 9.6 | 1.4 | 29 | 25 | 15 | 0.11 | 22 | <0.001 | <0.0002 | <0.001 | 0.003 |
| SRT-BH048 | SRT_BH048 | 6/09/2018 | 616629 | Normal | - | - | - | - | <0.005 | <10 | 130 | - | - | 19 | 6.2 | 2.7 | 56 | 34 | 47 | <0.01 | 0.09 | <0.001 | <0.0002 | <0.001 | 0.045 |
| SRT-BH048 | SRT_BH048 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | <20 | - | - | 3.7 | 1.8 | 1.6 | 39 | 34 | 48 | <0.01 | 0.12 | <0.001 | <0.0002 | <0.001 | 0.13 |
| SRT_BH048 | SRT_BH048 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | 27 | - | - | 5.2 | 2.5 | 1.6 | 36 | 51 | 49 | <0.01 | 0.1 | <0.001 | <0.0002 | <0.001 | 0.045 |
| SRT_BH050 | SRT_BH050 | 16/03/2020 | 708508 | Normal | <0.5 | 5.6 | 270 | 210 | 0.006 | <10 | <20 | - | - | 17 | 3.1 | 6.1 | 13 | 10 | 48 | 0.08 | 7.1 | 0.001 | <0.0002 | <0.001 | 0.003 |
| SRT-BH052 | SRT_BH052 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | 38 | - | - | 14 | 3.7 | 1 | 41 | 22 | 20 | <0.01 | 10 | <0.001 | <0.0002 | <0.001 | 0.063 |
| SRT_BH052 | SRT_BH052 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | 73 | - | - | 18 | 3.7 | 1 | 40 | 41 | 27 | <0.01 | 9.2 | <0.001 | <0.0002 | <0.001 | 0.022 |
| SRT_BH052 | SRT_BH052 | 18/12/2018 | 634274 | Normal | <0.05 | - | - | - | <0.005 | <10 | 35 | - | - | 17 | 4.1 | 1.1 | 38 | 43 | 18 | <0.01 | 10 | <0.001 | <0.0002 | <0.001 | 0.018 |
| SRT_BH052 | SRT_BH052 | 17/01/2019 | 636542 | Normal | <0.05 | - | - | - | 0.02 | <10 | 47 | - | - | 18 | 4.5 | 1 | 39 | 42 | 27 | <0.01 | 9.1 | <0.001 | <0.0002 | <0.001 | 0.32 |
| SRT_BH052 | SRT_BH052 | 20/02/2019 | 641720 | Normal | <0.05 | - | - | - | <0.005 | 61 | 130 | - | - | 14 | 3.6 | 1.6 | 60 | 42 | 28 | <0.01 | 6.2 | <0.001 | <0.0002 | <0.001 | 0.006 |
| SRT_BH052 | SRT_BH052 | 16/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | 90 | 140 | - | - | 3 | 1.5 | 1.7 | 130 | 45 | 21 | <0.01 | 5.2 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH052 | SRT_BH052 | 14/05/2019 | 656080 | Normal | <0.05 | 7.7 | 230 | 110 | <0.005 | <10 | 90 | - | - | 23 | 5.2 | 1.5 | 47 | 56 | 26 | <0.01 | 8.3 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH052 | SRT_BH052 | 7/06/2019 | 660130 | Normal | <0.5 | 8.1 | 250 | 550 | <0.005 | <10 | 140 | - | - | 37 | 6.9 | 1.3 | 48 | 39 | 29 | <0.01 | 6.4 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT-BH052 | SRT_BH052 | 31/07/2019 | 669059 | Normal | <0.05 | 7.6 | 270 | 100 | 0.006 | <10 | 110 | - | - | 30 | 6.3 | 1.6 | 47 | 42 | 29 | <0.01 | 6.9 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_BH052 | SRT_BH052 | 30/08/2019 | 674722 | Normal | <0.05 | 7.8 | 330 | 160 | <0.005 | <10 | 110 | - | - | 36 | 6.8 | 1.8 | 45 | 38 | 30 | <0.01 | 6.7 | <0.001 | <0.0002 | 0.002 | 0.003 |
| SRT_BH052 | SRT_BH052 | 27/09/2019 | 679636 | Normal | <0.05 | 7.8 | 250 | 58 | <0.005 | <10 | 140 | - | - | 26 | 5.7 | 1.2 | 41 | 38 | 33 | <0.01 | 6.8 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH052 | SRT_BH052 | 18/10/2019 | 683453 | Normal | 0.07 | 7.6 | 280 | 65 | <0.005 | <10 | 78 | - | - | 37 | 3 | 1.3 | 40 | 39 | 26 | <0.01 | 5.9 | 0.002 | <0.0002 | <0.001 | 0.002 |
| SRT_BH052 | SRT_BH052 | 15/11/2019 | 688512 | Normal | <0.05 | 7.6 | 240 | 64 | <0.005 | <10 | 78 | - | - | 23 | 4.5 | 1.5 | 43 | 49 | 31 | <0.01 | 6.9 | <0.001 | <0.0002 | <0.001 | 0.018 |
| SRT_BH052 | SRT_BH052 | 18/12/2019 | 694466 | Normal | 0.06 | 8.3 | 280 | 85 | <0.004 | <10 | 140 | - | - | 30 | 4.8 | 1.7 | 27 | 83 | 36 | 0.01 | 4.4 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH052 | SRT_BH052 | 20/01/2020 | 698379 | Normal | 0.16 | 6.9 | 270 | 54 | <0.004 | <10 | 81 | - | - | 49 | 5.1 | 1.5 | 37 | 78 | 35 | 0.02 | 5.6 | 0.003 | <0.0002 | <0.001 | 0.001 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 704673 | Normal | <0.05 | 7.5 | 170 | 110 | <0.004 | - | - | - | - | - | - | - | - | - | - | <0.01 | - | <0.001 | <0.0002 | <0.001 | 0.004 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 28 | - | - | 9.3 | <5 | <5 | 37 | 96 | 17 | - | 11 | - | - | - | - |
| SRT_BH052 | SRT_BH052 | 16/03/2020 | 708508 | Normal | <0.5 | 6.2 | 100 | 210 | 0.005 | <10 | 28 | - | - | 8.7 | 4.1 | 2 | 38 | 35 | 15 | 0.07 | 11 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT-BH053 | SRT_BH053 | 6/09/2018 | 616629 | Normal | - | - | - | - | <0.005 | <10 | 72 | - | - | 6.3 | 6.1 | 2.6 | 37 | 32 | 28 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.23 |
| SRT-BH053 | SRT_BH053 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | 52 | - | - | 5.1 | 4.9 | 2.5 | 33 | 26 | 27 | <0.01 | 0.39 | <0.001 | <0.0002 | <0.001 | 0.004 |
| SRT-BH059 | SRT_BH059 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | 180 | - | - | 63 | 7.9 | 6.6 | 12 | 13 | 17 | <0.01 | 3.5 | <0.001 | <0.0002 | 0.001 | 0.018 |
| SRT_BH059 | SRT_BH059 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | 210 | - | - | 58 | 7.4 | 5.5 | 9 | 34 | 13 | <0.01 | 2.3 | <0.001 | <0.0002 | 0.001 | 0.042 |
| SRT_BH059 | SRT_BH059 | 17/12/2018 | 634274 | Normal | 0.8 | - | - | - | <0.005 | <10 | 170 | - | - | 70 | 5.7 | 7.6 | 11 | 10 | 24 | <0.01 | 7.9 | <0.001 | <0.0002 | <0.001 | 0.056 |
| SRT_BH059 | SRT_BH059 | 18/01/2019 | 636542 | Normal | <0.05 | - | - | - | 0.017 | <10 | 170 | - | - | 64 | 6.1 | 5.9 | 9.5 | 8.1 | 13 | <0.01 | 2.8 | <0.001 | <0.0002 | <0.001 | 0.04 |
| SRT_BH059 | SRT_BH059 | 20/02/2019 | 641720 | Normal | <0.05 | - | - | - | <0.005 | <10 | 170 | - | - | 69 | 7.7 | 6.7 | 14 | 11 | 12 | <0.01 | 2.5 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_BH059 | SRT_BH059 | 17/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | <10 | 200 | - | - | 49 | 6 | 5.8 | 8.2 | 9.7 | 15 | <0.01 | 2.5 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_BH059 | SRT_BH059 | 15/05/2019 | 656080 | Normal | <0.05 | 8.1 | 270 | 21 | <0.005 | <10 | 210 | - | - | 65 | 6.9 | 7.1 | 11 | 22 | 27 | <0.01 | 3.2 | <0.001 | <0.0002 | <0.001 | 0.006 |
| SRT_BH059 | SRT_BH059 | 7/06/2019 | 660130 | Normal | <0.5 | 7.7 | 230 | 8.9 | <0.005 | <10 | 210 | - | - | 72 | 7.4 | 9 | 13 | 18 | 18 | <0.01 | 5.2 | <0.001 | <0.0002 | <0.001 | <0.001 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | Iron speciation | Inorganics | | | | Acidity & Alkalinity | | | | Major Ions | | | | | | Nutrients | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ferrous Iron | pH (Lab) | Total Dissolved Solids | Total Suspended Solids | Cyanide (Total) | Alkalinity (Carbonate as CaCO3) | Alkalinity (Bicarbonate as CaCO3) | Alkalinity (Hydroxide as CaCO3) | Alkalinity (total as CaCO3) | Calcium | Magnesium | Potassium | Sodium | Chloride | Sulfate | Ammonia as N | Nitrate (as N) | Arsenic (Filtered) | Cadmium (Filtered) | Chromium (III+VI) (Filtered) | Copper (Filtered) |
| | mg/L | pH Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| EQL | 0.05 | 0.1 | 5 | 1 | 0.004 | 10 | 20 | 20 | 20 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 2 | 0.01 | 0.02 | 0.001 | 0.0002 | 0.001 | 0.001 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | 0.004 | | | | | | | | | | | 0.91 | | | 0.0007[#3] | 0.0044[#4] | 0.0013[#4] |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | *0.8* | | | | | | | | | | *5000* | | | *0.1* | *0.02* | | *20* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | |
| SRT-BH059 | SRT_BH059 | 31/07/2019 | 669059 | Normal | <0.05 | 7.8 | 270 | 8.3 | <0.005 | <10 | 200 | - | - | 62 | 9.4 | 6.6 | 13 | 26 | 17 | <0.01 | 3.1 | <0.001 | <0.0002 | 0.001 | <0.001 |
| SRT_BH059 | SRT_BH059 | 30/08/2019 | 674722 | Normal | <0.05 | 7.9 | 290 | 13 | <0.005 | <10 | 170 | - | - | 60 | 6.4 | 6.7 | 11 | 8 | 15 | <0.01 | 3.5 | <0.001 | <0.0002 | 0.001 | 0.028 |
| SRT_BH059 | SRT_BH059 | 27/09/2019 | 679636 | Normal | <0.05 | 8 | 200 | 120 | <0.005 | <10 | 190 | - | - | 60 | 6.6 | 5.7 | 11 | 10 | 13 | <0.01 | 3.2 | <0.001 | <0.0002 | <0.001 | 0.007 |
| SRT_BH059 | SRT_BH059 | 18/10/2019 | 683453 | Normal | 0.06 | 8.1 | 250 | 4.9 | <0.005 | <10 | 170 | - | - | 59 | 6 | 5.9 | 10 | 22 | 11 | <0.01 | 2.4 | <0.001 | <0.0002 | <0.001 | 0.003 |
| SRT_BH059 | SRT_BH059 | 15/11/2019 | 688512 | Normal | <0.05 | 8 | 270 | 3.6 | <0.005 | <10 | 180 | - | - | 61 | 8.2 | 6.1 | 11 | 43 | 14 | <0.01 | 2.1 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_BH059 | SRT_BH059 | 18/12/2019 | 694466 | Normal | 0.08 | 7.9 | 260 | 15 | <0.004 | <10 | 210 | - | - | 56 | 8 | 6.6 | 15 | 12 | 13 | 0.02 | 1.9 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_BH059 | SRT_BH059 | 20/01/2020 | 698379 | Normal | <0.05 | 6.4 | 220 | 7.5 | <0.004 | <10 | 180 | - | - | 63 | 6.3 | 7.6 | 7.8 | 59 | 20 | <0.01 | 6.1 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 704673 | Normal | 0.09 | 8.2 | 170 | 1.8 | <0.004 | - | - | - | - | - | - | - | - | <0.01 | - | <0.001 | <0.0002 | <0.001 | 0.027 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | <10 | 170 | - | - | 57 | 5.4 | 7.4 | 10 | 22 | 27 | - | 4.4 | - | - | - | - |
| SRT_BH059 | SRT_BH059 | 16/03/2020 | 708508 | Normal | <0.5 | 7 | 180 | 20 | 0.005 | <10 | 150 | - | - | 52 | 5.2 | 7.3 | 9.7 | 9.5 | 12 | 0.02 | 2.3 | 0.001 | <0.0002 | <0.001 | 0.009 |
| SRT_BH060 | SRT_BH060 | 16/03/2020 | 708508 | Normal | <0.5 | 7.4 | 270 | 370 | 0.007 | <10 | 32 | - | - | 41 | 2.7 | 5.9 | 12 | 31 | 30 | 0.05 | 4.1 | 0.001 | <0.0002 | <0.001 | 0.024 |
| SRT-BH063 | SRT_BH063 | 6/09/2018 | 616629 | Normal | - | - | - | - | <0.005 | <10 | 330 | - | - | 66 | 38 | 5.8 | 82 | 72 | 45 | <0.01 | 0.15 | <0.001 | <0.0002 | <0.001 | 0.014 |
| SRT-BH063 | SRT_BH063 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | 270 | - | - | 50 | 30 | 5.5 | 68 | 53 | 53 | <0.01 | 0.09 | <0.001 | <0.0002 | <0.001 | 0.12 |
| SRT_BH063 | SRT_BH063 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | 320 | - | - | 48 | 31 | 5 | 63 | 68 | 52 | <0.01 | 0.1 | <0.001 | <0.0002 | <0.001 | 0.027 |
| QA02 | SRT_BH063 | 27/11/2018 | ES1835581 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0001 | <0.001 | 0.002 |
| QA01 | SRT_BH063 | 17/12/2018 | 634274 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_BH063 | SRT_BH063 | 17/12/2018 | 634274 | Normal | 0.39 | - | - | - | <0.005 | <10 | 290 | - | - | 58 | 33 | 6.4 | 75 | 76 | 56 | <0.01 | 0.24 | <0.001 | <0.0002 | <0.001 | 0.003 |
| QA01 | SRT_BH063 | 17/01/2019 | 636542 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | 0.004 |
| SRT_BH063 | SRT_BH063 | 17/01/2019 | 636542 | Normal | 0.05 | - | - | - | 0.018 | <10 | 290 | - | - | 57 | 32 | 5.4 | 70 | 68 | 52 | <0.01 | 0.13 | <0.001 | <0.0002 | <0.001 | 0.047 |
| SRT_BH063 | SRT_BH063 | 21/02/2019 | 641720 | Normal | 0.05 | - | - | - | <0.005 | <10 | 250 | - | - | 51 | 33 | 5.8 | 73 | 71 | 61 | <0.01 | 0.13 | <0.001 | <0.0002 | <0.001 | 0.029 |
| QA02 | SRT_BH063 | 21/02/2019 | ES1905610 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.001 | <0.0001 | 0.001 | 0.004 |
| SRT_BH063 | SRT_BH063 | 18/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | <10 | 310 | - | - | 54 | 36 | 6.1 | 70 | 74 | 58 | <0.01 | 0.1 | <0.001 | <0.0002 | <0.001 | 0.055 |
| SRT_BH063 | SRT_BH063 | 15/05/2019 | 656080 | Normal | <0.05 | 8.2 | 460 | 20 | <0.005 | <10 | 340 | - | - | 50 | 33 | 5.7 | 62 | 89 | 49 | <0.01 | <0.02 | <0.001 | <0.0002 | <0.001 | 0.005 |
| SRT_BH063 | SRT_BH063 | 7/06/2019 | 660130 | Normal | <0.5 | 7.4 | 360 | 41 | <0.005 | <10 | 310 | - | - | 55 | 30 | 6.8 | 71 | 77 | 48 | <0.01 | 0.4 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT-BH063 | SRT_BH063 | 29/07/2019 | 669059 | Normal | <0.05 | 7 | 460 | 33 | <0.005 | <10 | 300 | - | - | 54 | 35 | 5.7 | 68 | 66 | 51 | <0.01 | 0.07 | <0.001 | <0.0002 | <0.001 | 0.003 |
| SRT_BH063 | SRT_BH063 | 28/08/2019 | 674722 | Normal | <0.05 | 7.8 | 470 | 56 | <0.005 | <10 | 310 | - | - | 55 | 35 | 5.8 | 68 | 66 | 50 | <0.01 | 0.34 | <0.001 | <0.0002 | <0.001 | 0.01 |
| SRT-BH064 | SRT_BH064 | 6/09/2018 | 616629 | Normal | - | - | - | - | 0.028 | 34 | 46 | - | - | 5.7 | 0.7 | 18 | 63 | 23 | 58 | <0.01 | 2.3 | 0.005 | <0.0002 | <0.001 | 0.024 |
| QA01 | SRT_BH082 | 25/10/2018 | 624838 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT-BH082 | SRT_BH082 | 25/10/2018 | 624838 | Normal | 0.16 | - | - | - | <0.005 | <10 | <20 | - | - | 2.9 | 4 | 1.3 | 27 | 16 | 36 | <0.01 | 0.34 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QA01 | SRT_BH082 | 26/11/2018 | 629922 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | 0.073 |
| SRT_BH082 | SRT_BH082 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | <20 | - | - | 2.3 | 3.6 | 1.1 | 25 | 38 | 31 | <0.01 | 0.36 | <0.001 | <0.0002 | <0.001 | 0.007 |
| QA01 | SRT_CBH001 | 6/09/2018 | 616629 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | 0.041 |
| SRT-CBH001 | SRT_CBH001 | 6/09/2018 | 616629 | Normal | - | - | - | - | <0.005 | <10 | 22 | - | - | 8.7 | 6.8 | 1.8 | 24 | 17 | 34 | <0.01 | 9.2 | <0.001 | <0.0002 | <0.001 | 0.003 |
| SRT-CBH001 | SRT_CBH001 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | <20 | - | - | 5.9 | 4.4 | 1.6 | 24 | 17 | 32 | <0.01 | 7.1 | <0.001 | <0.0002 | <0.001 | 0.13 |
| SRT_CBH001 | SRT_CBH001 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | <20 | - | - | 6.6 | 4.9 | 1.6 | 21 | 35 | 32 | <0.01 | 7.8 | <0.001 | <0.0002 | <0.001 | 0.042 |
| SRT-CBH007 | SRT_CBH007 | 6/09/2018 | 616629 | Normal | - | - | - | - | 0.012 | <10 | <20 | - | - | 1.4 | 3 | 1.7 | 25 | 9.7 | 46 | <0.01 | 1.9 | <0.001 | <0.0002 | <0.001 | 0.36 |
| SRT-CBH015 | SRT_CBH015 | 7/09/2018 | 616629 | Normal | - | - | - | - | <0.005 | <10 | 32 | - | - | 4 | 5.7 | 3.8 | 27 | 11 | 79 | <0.01 | 4.3 | <0.001 | <0.0002 | <0.001 | 0.038 |
| SRT-CBH015 | SRT_CBH015 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | 49 | - | - | 3.1 | 4.8 | 3.2 | 35 | 9.8 | 49 | <0.01 | 2.7 | <0.001 | <0.0002 | <0.001 | 0.034 |
| SRT_CBH015 | SRT_CBH015 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | 30 | - | - | 2.9 | 5.3 | 3.8 | 24 | 11 | 45 | <0.01 | 3.5 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_CBH015 | SRT_CBH015 | 17/12/2018 | 634274 | Normal | <0.05 | - | - | - | <0.005 | <10 | 33 | - | - | 3.4 | 5 | 3.6 | 28 | 12 | 52 | <0.01 | 3.7 | <0.001 | <0.0002 | <0.001 | 0.019 |
| QA02 | SRT_CBH015 | 17/12/2018 | ES1838345 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | 0.0001 | <0.001 | <0.001 |
| SRT_CBH015 | SRT_CBH015 | 18/01/2019 | 636542 | Normal | 0.05 | - | - | - | 0.019 | <10 | 30 | - | - | 3.2 | 5.4 | 3.4 | 24 | 12 | 47 | <0.01 | 3.1 | <0.001 | <0.0002 | <0.001 | 0.002 |
| QA02 | SRT_CBH015 | 18/01/2019 | ES1901871 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | 0.0002 | <0.001 | 0.037 |
| SRT_CBH015 | SRT_CBH015 | 20/02/2019 | 641720 | Normal | 0.05 | - | - | - | <0.005 | <10 | 30 | - | - | 2.5 | 4.4 | 3.1 | 23 | 13 | 49 | <0.01 | 3 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_CBH015 | SRT_CBH015 | 17/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | <10 | 39 | - | - | 4 | 5.8 | 3.9 | 30 | 16 | 52 | <0.01 | 3.5 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_CBH015 | SRT_CBH015 | 15/05/2019 | 656080 | Normal | <0.05 | 6.5 | 140 | 1.7 | <0.005 | <10 | 34 | - | - | 2.7 | 5.3 | 3.5 | 29 | 13 | 48 | 0.03 | 3 | <0.001 | <0.0002 | <0.001 | 0.007 |
| SRT_CBH015 | SRT_CBH015 | 7/06/2019 | 660130 | Normal | <0.5 | 6.1 | 96 | 1.6 | <0.005 | <10 | 26 | - | - | 2.2 | 4.8 | 3.3 | 27 | 29 | 47 | 0.03 | 3.3 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | SRT_CBH015 | 31/07/2019 | 669059 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT-CBH015 | SRT_CBH015 | 31/07/2019 | 669059 | Normal | <0.05 | 6 | 130 | 5.1 | <0.005 | <10 | 22 | - | - | 2.6 | 5.7 | 3.8 | 22 | 37 | 42 | <0.01 | 3.2 | <0.001 | <0.0002 | <0.001 | <0.001 |
| QC02 | SRT_CBH015 | 30/08/2019 | 674722 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_CBH015 | SRT_CBH015 | 30/08/2019 | 674722 | Normal | <0.05 | 6.3 | 180 | 10 | <0.005 | <10 | 25 | - | - | 2.7 | 5.7 | 4 | 23 | 9.5 | 49 | <0.01 | 2.3 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_CBH015 | SRT_CBH015 | 27/09/2019 | 679636 | Normal | <0.05 | 6.3 | 120 | 5.1 | <0.005 | <10 | 28 | - | - | 2.7 | 5.1 | 3.2 | 24 | 10 | 47 | <0.01 | 2.7 | <0.001 | <0.0002 | <0.001 | 0.005 |
| SRT_CBH015 | SRT_CBH015 | 18/10/2019 | 683453 | Normal | 0.07 | 6.3 | 150 | 10 | <0.005 | <10 | 23 | - | - | 2.8 | 5.3 | 3.5 | 19 | 15 | 39 | <0.01 | 3 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_CBH015 | SRT_CBH015 | 15/11/2019 | 688512 | Normal | <0.05 | 6.3 | 140 | 2.9 | <0.005 | <10 | 22 | - | - | 3.1 | 5.6 | 3.5 | 19 | 64 | 41 | 0.02 | 2.8 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_CBH015 | SRT_CBH015 | 18/12/2019 | 694466 | Normal | 0.17 | 6.1 | 120 | 39 | <0.004 | <10 | 25 | - | - | 3 | 5.3 | 3.4 | 18 | 14 | 45 | 0.06 | 2.4 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT-CBH017 | SRT_CBH017 | 7/09/2018 | 616629 | Normal | - | - | - | - | <0.005 | <10 | 78 | - | - | 16 | 8.1 | 3.5 | 19 | 9.7 | 21 | <0.01 | 0.2 | <0.001 | <0.0002 | <0.001 | 0.038 |
| SRT-CBH017 | SRT_CBH017 | 25/10/2018 | 624838 | Normal | <0.05 | - | - | - | <0.005 | <10 | 65 | - | - | 13 | 6 | 2.9 | 14 | 8.8 | 19 | <0.01 | 0.62 | <0.001 | <0.0002 | <0.001 | 0.081 |
| SRT_CBH017 | SRT_CBH017 | 26/11/2018 | 629922 | Normal | - | - | - | - | <0.005 | <10 | 84 | - | - | 15 | 6.7 | 2.7 | 13 | 16 | 18 | <0.01 | 0.38 | <0.001 | <0.0002 | <0.001 | 0.12 |
| SRT_CBH017 | SRT_CBH017 | 17/12/2018 | 634274 | Normal | <0.05 | - | - | - | <0.005 | <10 | 42 | - | - | 19 | 9 | 3.2 | 17 | 11 | 17 | <0.01 | 2.5 | <0.001 | <0.0002 | <0.001 | 0.003 |
| SRT_CBH017 | SRT_CBH017 | 18/01/2019 | 636542 | Normal | <0.05 | - | - | - | 0.017 | <10 | 44 | - | - | 13 | 6.7 | 2.7 | 12 | 7.9 | 12 | <0.01 | 1.9 | <0.001 | <0.0002 | <0.001 | 0.002 |
| QA01 | SRT_CBH017 | 20/02/2019 | 641720 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | 0.002 | <0.001 |
| SRT_CBH017 | SRT_CBH017 | 20/02/2019 | 641720 | Normal | <0.05 | - | - | - | <0.005 | <10 | 32 | - | - | 8.7 | 5 | 2.7 | 9.6 | 15 | 16 | <0.01 | 3.1 | <0.001 | <0.0002 | <0.001 | 0.032 |
| SRT_CBH017 | SRT_CBH017 | 17/04/2019 | 651825 | Normal | <0.5 | - | - | - | <0.005 | <10 | 44 | - | - | 9.6 | 4.9 | 3.2 | 9.2 | 8.8 | 15 | <0.01 | 3.1 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_CBH017 | SRT_CBH017 | 15/05/2019 | 656080 | Normal | <0.05 | 6.7 | 88 | 16 | <0.005 | <10 | 30 | - | - | 10 | 6.8 | 3 | 11 | 19 | 17 | <0.01 | 4.4 | <0.001 | <0.0002 | <0.001 | 0.003 |
| SRT_CBH017 | SRT_CBH017 | 7/06/2019 | 660130 | Normal | <0.5 | 6.8 | 81 | 8.8 | <0.005 | <10 | 52 | - | - | 7.1 | 6.5 | 3.1 | 15 | 12 | 19 | 0.03 | 1.9 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT-CBH017 | SRT_CBH017 | 31/07/2019 | 669059 | Normal | <0.05 | 6.8 | 130 | 79 | <0.005 | <10 | 59 | - | - | 11 | 9.8 | 3.4 | 20 | 50 | 23 | <0.01 | 0.48 | <0.001 | <0.0002 | <0.001 | 0.002 |
| SRT_CBH017 | SRT_CBH017 | 30/08/2019 | 674722 | Normal | <0.05 | 7 | 180 | 3.8 | <0.005 | <10 | 67 | - | - | 12 | 9.6 | 3.4 | 19 | 13 | 26 | <0.01 | 0.32 | <0.001 | <0.0002 | <0.001 | 0.005 |
| QC02 | SRT_CBH017 | 27/09/2019 | 679636 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_CBH017 | SRT_CBH017 | 27/09/2019 | 679636 | Normal | 0.05 | 7.1 | 120 | 2 | <0.005 | <10 | 66 | - | - | 12 | 9.6 | 3.1 | 20 | 16 | 30 | <0.01 | 0.38 | <0.001 | <0.0002 | <0.001 | 0.001 |
| SRT_CBH017 | SRT_CBH017 | 18/10/2019 | 683453 | Normal | 0.09 | 7.1 | 150 | 2.3 | <0.005 | <10 | 63 | - | - | 11 | 9.1 | 3.2 | 21 | 15 | 32 | <0.01 | 0.33 | <0.001 | <0.0002 | <0.001 | 0.017 |
| SRT_CBH017 | SRT_CBH017 | 15/11/2019 | 688512 | Normal | 0.07 | 7.2 | 150 | 5.1 | <0.005 | <10 | 77 | - | - | 14 | 11 | 3.6 | 24 | 50 | 30 | <0.01 | 0.19 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_CBH017 | SRT_CBH017 | 18/12/2019 | 694466 | Normal | 0.17 | 7 | 150 | 9.6 | <0.004 | <10 | 78 | - | - | 13 | 10 | 3.5 | 21 | 13 | 31 | 0.02 | 0.31 | <0.001 | <0.0002 | <0.001 | <0.001 |
| SRT_CBH017 | SRT_CBH017 | 20/01/2020 | 698379 | Normal | 0.64 | 6.2 | 200 | 49 | <0.004 | <10 | 110 | - | - | 12 | 10 | 2.8 | 20 | 85 | 34 | 0.01 | 0.03 | <0.001 | <0.0002 | <0.001 | 0.014 |
| **Statistical Summary** | | | | | | | | | | | | | | | | | | | | | |
| Number of Results | | 210 | 168 | 168 | 168 | 229 | 229 | 229 | 3 | 3 | 229 | 229 | 229 | 229 | 229 | 229 | 229 | 226 | 267 | 267 | 267 | 267 |
| Number of Detects | | 126 | 168 | 168 | 167 | 48 | 9 | 206 | 0 | 3 | 227 | 225 | 220 | 229 | 229 | 220 | 99 | 151 | 45 | 4 | 15 | 167 |
| Minimum Concentration | | <0.05 | 3.5 | 81 | <1 | <0.004 | <10 | <20 | <20 | 35 | 1.4 | <0.5 | 0.5 | 7.8 | 7.9 | <2 | <0.01 | <0.02 | <0.001 | <0.0001 | <0.001 | <0.001 |
| Minimum Detect | | 0.05 | 3.5 | 81 | 1.6 | 0.005 | 11 | 20 | ND | 35 | 1.4 | 0.7 | 0.5 | 7.8 | 7.9 | 7.6 | 0.01 | 0.02 | 0.001 | 0.0001 | 0.001 | 0.001 |
| Maximum Concentration | | 19 | 11 | 1200 | 42000 | 0.16 | 150 | 3000 | <20 | 310 | 460 | 190 | 170 | 230 | 910 | 940 | 1.3 | 25 | 0.012 | 0.0002 | 0.007 | 0.36 |
| Maximum Detect | | 19 | 11 | 1200 | 42000 | 0.16 | 150 | 3000 | ND | 310 | 460 | 190 | 170 | 230 | 910 | 940 | 1.3 | 25 | 0.012 | 0.0002 | 0.007 | 0.36 |
| Average Concentration | | 2.6 | 7 | 356 | 668 | 0.0065 | 7.4 | 142 | 10 | 139 | 35 | 14 | 6.5 | 59 | 79 | 64 | 0.057 | 3.1 | 0.00095 | 0.000098 | 0.00059 | 0.012 |
| Median Concentration | | 0.25 | 7.1 | 290 | 65 | 0.0025 | 5 | 100 | 10 | 71 | 19 | 7.4 | 3.4 | 46 | 45 | 38 | 0.005 | 0.17 | 0.0005 | 0.0001 | 0.0005 | 0.002 |
| Standard Deviation | | 4.3 | 1.1 | 208 | 3369 | 0.016 | 14 | 221 | 0 | 149 | 51 | 18 | 17 | 42 | 112 | 97 | 0.15 | 5.8 | 0.0014 | 0.000013 | 0.00052 | 0.037 |
| Number of Guideline Exceedances | | 0 | 0 | 0 | 0 | 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 144 |
| Number of Guideline Exceedances(Detects Only) | | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 144 |

**Env Stds Comments**

#1:Not limiting: Derived water HSL exceeds water solubility limit
#2:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#3:Values calculated using hardness of 30 mg/L CaCO3. Chemical for which possible bioaccumulation and secondary poisoning effects should be considered.
#4:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARMCANZ (2000) for site specific hardness guidance
#5:Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCANZ (2000) for further guidance.
#6:Values calculated using hardness of 30 mg/L CaCO3. Figure may not protect key species from chronic toxicity. Refer ANZECC & ARMCANZ (2000) for guidance
#7:Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance.

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | Metals | | | | | BTEXN | | | | | | | | TRH - NEPM 2013 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lead (Filtered) | Manganese (Filtered) | Mercury (Filtered) | Nickel (Filtered) | Zinc (Filtered) | Benzene | Toluene | Ethylbenzene | Xylene (o) | Xylene (m & p) | Xylene Total | Naphthalene (BTEXN) | BTEX (Sum of Total) - Lab Calc | F1 (C6-C10 minus BTEX) | C6-C10 Fraction | F2 (>C10-C16 minus Naphthalene) | >C10-C16 Fraction | F3 (>C16-C34 Fraction) |
| | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | 0.001 | 0.005 | 0.0001 | 0.001 | 0.005 | 1 | 1 | 1 | 1 | 2 | 3 | 10 | 1 | 20 | 20 | 50 | 50 | 100 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | 5000 | NL | NL | | | NL | NL | | 6000[#2] | | NL | | |
| 4-8m | | | | | | 5000 | NL | NL | | | NL | NL | | 6000[#2] | | NL | | |
| >8m | | | | | | 5000 | NL | NL | | | NL | NL | | 7000[#2] | | NL | | |
| NEPM 2013 Table 1C GILs, Marine Waters | 0.0044[#4] | | 0.0001[#5] | 0.007[#4] | 0.015[#6] | 500[#7] | | | | | | 50[#7] | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | *0.1* | *5* | *0.01* | *0.2* | | *10* | *8000* | *3000* | | | *6000* | | | | | | | |

| Field_ID | Location_Code | Sampled_Date_Time | Lab_Report_Number | Sample_Type | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CSM_BH02 | CSM_BH02 | 16/04/2019 | 651825 | Normal | <0.001 | 0.2 | <0.0001 | 0.012 | 0.006 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 14/05/2019 | 656080 | Normal | <0.001 | 0.55 | <0.0001 | 0.012 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 6/06/2019 | 660130 | Normal | <0.001 | 0.33 | <0.0001 | 0.009 | 0.016 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 60 | 60 | 200 |
| CSM_BH02 | CSM_BH02 | 30/07/2019 | 669059 | Normal | <0.001 | 0.13 | <0.0001 | 0.004 | 0.007 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 29/08/2019 | 674722 | Normal | <0.001 | 0.24 | <0.0001 | 0.006 | 0.007 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 26/09/2019 | 679636 | Normal | <0.001 | 0.26 | <0.0001 | 0.015 | 0.011 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 17/10/2019 | 683453 | Normal | <0.001 | 0.33 | <0.0001 | 0.028 | 0.048 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 13/11/2019 | 688512 | Normal | <0.001 | 0.29 | <0.0001 | 0.025 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 17/12/2019 | 694466 | Normal | <0.001 | 0.19 | <0.0001 | 0.009 | 0.012 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 21/01/2020 | 698379 | Normal | <0.001 | 0.26 | <0.0001 | 0.027 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 704673 | Normal | <0.001 | 0.12 | <0.0001 | 0.021 | 0.008 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 260 | 260 | 300 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH02 | CSM_BH02 | 18/03/2020 | 708508 | Normal | <0.001 | 0.091 | <0.0001 | 0.009 | 0.041 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 16/04/2019 | 651825 | Normal | <0.001 | 0.36 | <0.0001 | 0.01 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 13/05/2019 | 656080 | Normal | <0.001 | 0.3 | <0.0001 | 0.029 | 0.29 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 11/06/2019 | 660130 | Normal | <0.001 | 0.44 | <0.0001 | 0.023 | 0.051 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 200 |
| CSM_BH04 | CSM_BH04 | 30/07/2019 | 669059 | Normal | <0.001 | 0.42 | <0.0001 | 0.018 | 0.025 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 29/08/2019 | 674722 | Normal | <0.001 | 0.45 | <0.0001 | 0.037 | 0.1 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 26/09/2019 | 679636 | Normal | <0.001 | 0.18 | <0.0001 | 0.002 | <0.005 | <1 | 2 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 17/10/2019 | 683453 | Normal | <0.001 | 0.048 | <0.0001 | 0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | CSM_BH04 | 17/10/2019 | 683453 | Field_D | <0.001 | - | <0.0001 | 0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 13/11/2019 | 688512 | Normal | <0.001 | 0.33 | <0.0001 | 0.01 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH04 | 13/11/2019 | ES1937682 | Interlab_D | <0.001 | - | <0.0001 | 0.01 | <0.005 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH04 | CSM_BH04 | 17/12/2019 | 694466 | Normal | <0.001 | 0.32 | <0.0001 | 0.021 | 0.014 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 21/01/2020 | 698379 | Normal | <0.001 | 0.37 | <0.0001 | 0.007 | 0.041 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | CSM_BH04 | 21/01/2020 | 698379 | Field_D | <0.001 | - | <0.0001 | 0.008 | 0.041 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 200 |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 704673 | Normal | <0.001 | 0.34 | <0.0001 | 0.025 | 0.021 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QC02 | CSM_BH04 | 25/02/2020 | 704673 | Field_D | <0.001 | - | <0.0001 | 0.026 | 0.021 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 300 |
| CSM_BH04 | CSM_BH04 | 18/03/2020 | 708508 | Normal | <0.001 | 0.33 | <0.0001 | 0.007 | 0.026 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH05 | CSM_BH05 | 17/04/2019 | 651825 | Normal | <0.001 | 0.36 | <0.0001 | 0.011 | 0.011 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 900 |
| CSM_BH05 | CSM_BH05 | 13/05/2019 | 656080 | Normal | <0.001 | 0.37 | <0.0001 | 0.008 | 0.027 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH05 | CSM_BH05 | 11/06/2019 | 660130 | Normal | <0.001 | 0.44 | <0.0001 | 0.005 | 0.023 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH05 | CSM_BH05 | 29/07/2019 | 669059 | Normal | <0.001 | 0.45 | <0.0001 | 0.011 | 0.024 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 18/04/2019 | 651825 | Normal | <0.001 | 0.28 | <0.0001 | 0.014 | 0.032 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 300 |
| CSM_BH06 | CSM_BH06 | 14/05/2019 | 656080 | Normal | <0.001 | 0.25 | <0.0001 | 0.011 | 0.054 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | CSM_BH06 | 14/05/2019 | 656080 | Field_D | <0.001 | - | <0.0001 | 0.011 | 0.053 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 6/06/2019 | 660130 | Normal | <0.001 | 0.28 | <0.0001 | 0.02 | 0.05 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC04 | CSM_BH06 | 8/06/2019 | 660130 | Field_D | <0.001 | - | <0.0001 | 0.02 | 0.052 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 30/07/2019 | 669059 | Normal | <0.001 | 0.21 | <0.0001 | 0.019 | 0.035 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 28/08/2019 | 674722 | Normal | <0.001 | 0.23 | <0.0001 | 0.019 | 0.086 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 26/09/2019 | 679636 | Normal | <0.001 | 0.17 | <0.0001 | 0.036 | 0.094 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 17/10/2019 | 683453 | Normal | <0.001 | 0.36 | <0.0001 | 0.027 | 0.14 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 13/11/2019 | 688512 | Normal | <0.001 | 0.33 | <0.0001 | 0.053 | 0.024 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 17/12/2019 | 694466 | Normal | <0.001 | 0.29 | <0.0001 | 0.026 | 0.054 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH06 | 17/12/2019 | 694466 | Field_D | <0.001 | - | <0.0001 | 0.027 | 0.056 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 300 |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 704673 | Normal | <0.001 | 0.28 | <0.0001 | 0.01 | 0.067 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 16/03/2020 | 708508 | Normal | <0.001 | 0.34 | <0.0001 | 0.006 | 0.041 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH06 | 16/03/2020 | ES2009232 | Interlab_D | <0.001 | - | <0.0001 | 0.005 | 0.038 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH08 | CSM_BH08 | 18/04/2019 | 651825 | Normal | <0.001 | 0.34 | <0.0001 | 0.007 | 0.02 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | CSM_BH08 | 18/04/2019 | 651825 | Field_D | <0.001 | - | <0.0001 | 0.007 | 0.015 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 15/05/2019 | 656080 | Normal | <0.001 | 0.3 | <0.0001 | 0.003 | 0.015 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 6/06/2019 | 660130 | Normal | <0.001 | 0.37 | <0.0001 | 0.006 | 0.041 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC03 | CSM_BH08 | 6/06/2019 | ES1917968 | Interlab_D | <0.001 | - | <0.0001 | 0.006 | 0.034 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH08 | CSM_BH08 | 30/07/2019 | 669059 | Normal | <0.001 | 0.34 | <0.0001 | 0.021 | 0.011 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 29/08/2019 | 674722 | Normal | <0.001 | 0.4 | <0.0001 | 0.016 | 0.16 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 26/09/2019 | 679636 | Normal | <0.001 | 0.32 | <0.0001 | 0.002 | 0.014 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 18/10/2019 | 683453 | Normal | <0.001 | 0.3 | <0.0001 | 0.003 | 0.013 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 13/11/2019 | 688512 | Normal | <0.001 | 0.29 | <0.0001 | 0.007 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 16/12/2019 | 694466 | Normal | <0.001 | 0.25 | <0.0001 | 0.008 | 0.032 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 21/01/2020 | 698379 | Normal | <0.001 | 0.31 | <0.0001 | 0.003 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 704673 | Normal | <0.001 | 0.29 | <0.0001 | 0.001 | 0.015 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 18/03/2020 | 708508 | Normal | <0.001 | 0.29 | <0.0001 | 0.002 | 0.028 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH09S | CSM_BH09S | 17/04/2019 | 651825 | Normal | <0.001 | 0.83 | <0.0001 | 0.009 | 0.042 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH09S | 17/04/2019 | ES1912362 | Interlab_D | <0.001 | - | <0.0001 | 0.008 | 0.042 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH09S | CSM_BH09S | 13/05/2019 | 656080 | Normal | <0.001 | 0.54 | <0.0001 | 0.004 | 0.019 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH09S | 13/05/2019 | ES1914810 | Interlab_D | <0.001 | - | <0.0001 | 0.005 | 0.018 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH09S | CSM_BH09S | 11/06/2019 | 660130 | Normal | <0.001 | 0.78 | <0.0001 | 0.009 | 0.054 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH09S | CSM_BH09S | 29/07/2019 | 669059 | Normal | <0.001 | 0.64 | <0.0001 | 0.006 | 0.036 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH09S | 29/07/2019 | ES1924197 | Interlab_D | <0.001 | - | <0.0001 | 0.007 | 0.04 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH09S | CSM_BH09S | 28/08/2019 | 674722 | Normal | <0.001 | 0.65 | <0.0001 | 0.008 | 0.045 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH09S | 28/08/2019 | EM1914568 | Interlab_D | <0.001 | - | <0.0001 | 0.009 | 0.041 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH09S | CSM_BH09S | 25/09/2019 | 679636 | Normal | <0.001 | 0.79 | <0.0001 | 0.009 | 0.056 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH09S | 25/09/2019 | ES1931406 | Interlab_D | <0.001 | - | <0.0001 | 0.008 | 0.048 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH09S | CSM_BH09S | 16/10/2019 | 683453 | Normal | <0.001 | 0.87 | <0.0001 | 0.009 | 0.04 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH09S | CSM_BH09S | 14/11/2019 | 688512 | Normal | <0.001 | 0.88 | <0.0001 | 0.008 | 0.041 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH09S | CSM_BH09S | 16/12/2019 | 694466 | Normal | <0.001 | 0.73 | <0.0001 | 0.006 | 0.031 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | CSM_BH09S | 16/12/2019 | ES1941823 | Interlab_D | <0.001 | - | <0.0001 | 0.006 | 0.037 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH09S | CSM_BH09S | 21/01/2020 | 698379 | Normal | <0.001 | 0.71 | <0.0001 | 0.004 | 0.023 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 704673 | Normal | <0.001 | 0.6 | <0.0001 | 0.002 | 0.014 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QC01 | CSM_BH09S | 24/02/2020 | ES2006512 | Interlab_D | <0.001 | - | <0.0001 | 0.003 | 0.011 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH09S | CSM_BH09S | 17/03/2020 | 708508 | Normal | <0.001 | 0.67 | <0.0001 | 0.008 | 0.047 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 16/04/2019 | 651825 | Normal | <0.001 | 0.52 | <0.0001 | 0.002 | 0.006 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 13/05/2019 | 656080 | Normal | <0.001 | 0.43 | <0.0001 | 0.002 | 0.011 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 11/06/2019 | 660130 | Normal | <0.001 | 0.49 | <0.0001 | 0.001 | 0.006 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 30/07/2019 | 669059 | Normal | <0.001 | 0.41 | <0.0001 | 0.002 | 0.011 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 29/08/2019 | 674722 | Normal | <0.001 | 0.48 | <0.0001 | 0.002 | 0.014 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 25/09/2019 | 679636 | Normal | <0.001 | 0.51 | <0.0001 | 0.002 | 0.009 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 16/10/2019 | 683453 | Normal | <0.001 | 0.53 | <0.0001 | 0.002 | <0.005 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH10S | 16/10/2019 | ES1934142 | Interlab_D | <0.001 | - | <0.0001 | 0.001 | <0.005 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH10S | CSM_BH10S | 14/11/2019 | 688512 | Normal | <0.001 | 0.47 | <0.0001 | 0.002 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 400 | 400 | <100 |
| QC02 | CSM_BH10S | 14/11/2019 | 688512 | Field_D | <0.001 | - | <0.0001 | 0.002 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 17/12/2019 | 694466 | Normal | <0.001 | 0.45 | <0.0001 | 0.002 | 0.006 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 20/01/2020 | 698379 | Normal | <0.001 | 0.49 | <0.0001 | 0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC01 | CSM_BH10S | 20/01/2020 | ES2001825 | Interlab_D | <0.001 | - | <0.0001 | <0.001 | <0.005 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 704673 | Normal | <0.001 | 0.51 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/03/2020 | 708508 | Normal | <0.001 | 0.54 | <0.0001 | 0.002 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | CSM_BH10S | 17/03/2020 | 708508 | Field_D | <0.001 | - | <0.0001 | 0.002 | <0.005 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| GASW_BH10 | GASW_BH10 | 5/06/2019 | 659250 | Normal | <0.001 | 0.049 | <0.0001 | 0.007 | <0.005 | 2 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| GASW_BH10 | GASW_BH10 | 30/07/2019 | 669059 | Normal | <0.001 | 0.25 | <0.0001 | 0.042 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 50 | 50 | <100 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | Metals | | | | | BTEXN | | | | | | | | TRH - NEPM 2013 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lead (Filtered) | Manganese (Filtered) | Mercury (Filtered) | Nickel (Filtered) | Zinc (Filtered) | Benzene | Toluene | Ethylbenzene | Xylene (o) | Xylene (m & p) | Xylene Total | Naphthalene (BTEXN) | BTEX (Sum of Total) - Lab Calc | F1 (C6-C10 minus BTEX) | C6-C10 Fraction | F2 (>C10-C16 minus Naphthalene) | >C10-C16 Fraction | F3 (>C16-C34 Fraction) |
| | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | 0.001 | 0.005 | 0.0001 | 0.001 | 0.005 | 1 | 1 | 1 | 1 | 2 | 3 | 10 | 1 | 20 | 20 | 50 | 50 | 100 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | 5000 | NL | NL | | | NL | NL | | 6000[#2] | | NL | | |
| 4-8m | | | | | | 5000 | NL | NL | | | NL | NL | | 6000[#2] | | NL | | |
| >8m | | | | | | 5000 | NL | NL | | | NL | NL | | 7000[#2] | | NL | | |
| NEPM 2013 Table 1C GILs, Marine Waters | 0.0044[#4] | | 0.0001[#5] | 0.007[#4] | 0.015[#6] | 500[#7] | | | | | | 50[#7] | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | *0.1* | *5* | *0.01* | *0.2* | | *10* | *8000* | *3000* | | | *6000* | | | | | | | |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | |
| GASW_BH10 | GASW_BH10 | 28/08/2019 | 674722 | Normal | <0.001 | 0.32 | <0.0001 | 0.043 | 0.029 | <4 | <4 | <4 | <4 | <8 | <12 | <40 | - | <80 | <80 | 310 | 310 | 100 |
| GASW_BH10 | GASW_BH10 | 26/09/2019 | 679636 | Normal | <0.001 | 0.48 | <0.0001 | 0.026 | 0.015 | <1 | 2 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 300 | 300 | <100 |
| GASW_BH10 | GASW_BH10 | 17/10/2019 | 683453 | Normal | <0.001 | 0.38 | <0.0001 | 0.031 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| GASW_BH10 | GASW_BH10 | 13/11/2019 | 688512 | Normal | <0.001 | 0.49 | 0.0002 | 0.018 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| GASW_BH10 | GASW_BH10 | 16/12/2019 | 694466 | Normal | <0.001 | 0.67 | <0.0001 | 0.03 | 0.026 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 50 | 50 | <100 |
| GASW_BH10 | GASW_BH10 | 21/01/2020 | 698379 | Normal | <0.001 | 0.7 | <0.0001 | 0.029 | 0.013 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 704673 | Normal | <0.001 | 0.46 | <0.0001 | 0.021 | 0.015 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 18/03/2020 | 708508 | Normal | <0.001 | 0.39 | <0.0001 | 0.018 | 0.015 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 100 | 100 | <100 |
| GASW_BH11 | GASW_BH11 | 5/06/2019 | 659250 | Normal | <0.001 | 0.2 | <0.0001 | 0.002 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 160 | 160 | <100 |
| QC02 | GASW_BH11 | 5/06/2019 | 659250 | Field_D | <0.001 | - | <0.0001 | 0.002 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 220 | 220 | <100 |
| GASW_BH11 | GASW_BH11 | 30/07/2019 | 669059 | Normal | <0.001 | 0.2 | <0.0001 | 0.002 | 0.007 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 100 | 100 | <100 |
| GASW_BH11 | GASW_BH11 | 28/08/2019 | 674722 | Normal | <0.001 | 0.23 | <0.0001 | 0.002 | 0.016 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 270 | 270 | <100 |
| GASW_BH11 | GASW_BH11 | 25/09/2019 | 679636 | Normal | <0.001 | 0.25 | <0.0001 | 0.002 | 0.016 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 640 | 640 | 200 |
| GASW_BH11 | GASW_BH11 | 16/10/2019 | 683453 | Normal | <0.001 | 0.23 | <0.0001 | 0.003 | 0.011 | *20* | 2 | <1 | <1 | <2 | <3 | <10 | - | <20 | 40 | 210 | 210 | <100 |
| GASW_BH11 | GASW_BH11 | 14/11/2019 | 688512 | Normal | <0.001 | 0.2 | <0.0001 | 0.002 | 0.012 | 8 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 210 | 210 | <100 |
| GASW_BH11 | GASW_BH11 | 16/12/2019 | 694466 | Normal | <0.001 | 0.16 | <0.0001 | 0.003 | 0.024 | *10* | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 170 | 170 | <100 |
| GASW_BH11 | GASW_BH11 | 22/01/2020 | 698379 | Normal | <0.001 | 0.15 | <0.0001 | <0.001 | 0.021 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 220 | 220 | <100 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 704673 | Normal | <0.001 | 0.32 | <0.0001 | <0.001 | 0.036 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 480 | 480 | <100 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 17/03/2020 | 708508 | Normal | <0.001 | 0.16 | <0.0001 | 0.007 | 0.062 | 2 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 510 | 510 | <100 |
| GASW_BH23 | GASW_BH23 | 25/09/2019 | 679636 | Normal | <0.001 | 0.49 | <0.0001 | 0.004 | 0.55 | *1900* | 230 | 30 | 25 | 44 | 68 | <10 | - | 2800 | 5000 | 400 | 400 | 300 |
| GASW_BH23 | GASW_BH23 | 16/10/2019 | 683453 | Normal | <0.001 | 0.41 | <0.0001 | 0.001 | 0.007 | *2400* | 290 | 40 | 29 | 44 | 73 | <200 | - | 4000 | 6800 | <50 | <50 | <100 |
| GASW_BH23 | GASW_BH23 | 14/11/2019 | 688512 | Normal | <0.001 | 0.33 | <0.0001 | <0.001 | <0.005 | *3200* | 260 | <50 | <50 | <100 | <150 | <500 | - | 3200 | 6700 | <500 | 320 | <100 |
| GASW_BH23 | GASW_BH23 | 16/12/2019 | 694466 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | 0.005 | *560* | 53 | <8 | <8 | <16 | <24 | <80 | - | 260 | 870 | <50 | <50 | <100 |
| GASW_BH23 | GASW_BH23 | 22/01/2020 | 698379 | Normal | 0.001 | 0.28 | <0.0001 | <0.001 | 0.14 | *1500* | 53 | <50 | <50 | <100 | <150 | <500 | - | - | 1500 | <500 | 110 | <100 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 704673 | Normal | <0.001 | 0.12 | <0.0001 | <0.001 | <0.005 | *5500* | 340 | <100 | <100 | <200 | <300 | <1000 | - | 3200 | 9000 | <1000 | 880 | 200 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 17/03/2020 | 708508 | Normal | <0.001 | 0.2 | <0.0001 | 0.001 | 0.037 | *640* | 45 | <10 | <10 | <20 | <30 | <100 | - | 420 | 1100 | 150 | 150 | <100 |
| GASW_BH25A | GASW_BH25A | 25/09/2019 | 679636 | Normal | <0.001 | 0.14 | <0.0001 | <0.001 | <0.005 | *3600* | 1200 | 53 | 77 | 140 | 220 | <40 | - | 4900 | 10,000 | 260 | 260 | 200 |
| GASW_BH25a | GASW_BH25A | 16/10/2019 | 683453 | Normal | <0.001 | 0.094 | <0.0001 | <0.001 | <0.005 | *2700* | 990 | 40 | 50 | 95 | 140 | <200 | - | 5000 | 8900 | <200 | 90 | <100 |
| GASW_BH25A | GASW_BH25A | 14/11/2019 | 688512 | Normal | 0.001 | 0.11 | <0.0001 | 0.008 | 0.026 | *2200* | 870 | <50 | <50 | <100 | <150 | <500 | - | 3000 | 6100 | <500 | 310 | <100 |
| GASW_BH25A | GASW_BH25A | 16/12/2019 | 694466 | Normal | <0.001 | 0.086 | <0.0001 | <0.001 | <0.005 | *9700* | 3500 | 110 | 120 | 250 | 370 | <500 | - | 6300 | 20,000 | <500 | 280 | 300 |
| GASW_BH25A | GASW_BH25A | 22/01/2020 | 698379 | Normal | <0.001 | 0.091 | <0.0001 | <0.001 | <0.005 | *30,000* | *11,000* | <400 | <400 | <800 | <1200 | <4000 | - | 11,000 | 52,000 | <4000 | 520 | <100 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 704673 | Normal | <0.001 | 0.096 | <0.0001 | <0.001 | <0.005 | *16,000* | 7200 | 460 | 420 | 1100 | 1600 | <1000 | - | 1800 | 27,000 | <1000 | 430 | <100 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25a | GASW_BH25A | 17/03/2020 | 708508 | Normal | <0.001 | 0.029 | <0.0001 | 0.008 | 0.047 | *9800* | 4900 | 300 | 340 | 700 | 1000 | <2000 | - | 7000 | 23,000 | <2000 | 240 | <100 |
| GASW_BH7 | GASW_BH7 | 5/06/2019 | 659250 | Normal | <0.001 | 0.3 | <0.0001 | 0.002 | 0.039 | 1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 630 | 630 | 400 |
| QC01 | GASW_BH7 | 5/06/2019 | ES1917381 | Interlab_D | <0.001 | - | <0.0001 | 0.002 | 0.04 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | 380 | 380 | 210 |
| GASW_BH7 | GASW_BH7 | 30/07/2019 | 669059 | Normal | 0.001 | 0.12 | <0.0001 | 0.003 | 0.059 | 9 | <1 | <1 | <1 | <2 | <3 | <10 | - | 20 | 30 | 140 | 140 | <100 |
| GASW_BH7 | GASW_BH7 | 28/08/2019 | 674722 | Normal | 0.002 | 0.13 | <0.0001 | 0.006 | 0.078 | *27* | <1 | <1 | <1 | <2 | <3 | <10 | - | 20 | 50 | 450 | 450 | 200 |
| GASW_BH7 | GASW_BH7 | 25/09/2019 | 679636 | Normal | 0.003 | 0.11 | <0.0001 | 0.002 | 0.064 | *70* | 6 | <1 | 1 | <2 | <3 | <10 | - | 30 | 110 | 840 | 840 | 400 |
| GASW_BH7 | GASW_BH7 | 16/10/2019 | 683453 | Normal | 0.003 | 0.11 | <0.0001 | 0.002 | 0.033 | *91* | 8 | <1 | 1 | <2 | <3 | <10 | - | 80 | 180 | 810 | 810 | 400 |
| GASW_BH7 | GASW_BH7 | 14/11/2019 | 688512 | Normal | 0.002 | 0.098 | <0.0001 | 0.002 | 0.036 | *130* | 8 | 1 | 2 | 3 | 4 | <10 | - | 120 | 260 | 300 | 300 | <100 |
| GASW_BH7 | GASW_BH7 | 16/12/2019 | 694466 | Normal | 0.002 | 0.081 | <0.0001 | 0.004 | 0.063 | *120* | 3 | 1 | 2 | 3 | 5 | <10 | - | 20 | 150 | 180 | 180 | <100 |
| GASW_BH7 | GASW_BH7 | 22/01/2020 | 698379 | Normal | 0.003 | 0.1 | <0.0001 | 0.001 | 0.041 | *42* | <1 | <1 | 1 | <2 | <3 | <10 | - | 50 | 90 | 220 | 220 | <100 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 704673 | Normal | <0.001 | 0.14 | <0.0001 | <0.001 | 0.018 | *62* | 1 | <1 | <1 | <2 | <3 | <10 | - | 30 | 90 | 300 | 300 | <100 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 17/03/2020 | 708508 | Normal | 0.004 | 0.13 | <0.0001 | 0.003 | 0.018 | 3 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 440 | 440 | 100 |
| SRT-BH039 | SRT_BH039 | 7/09/2018 | 616629 | Normal | 0.003 | - | <0.0001 | 0.004 | 0.047 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 200 |
| QA02 | SRT_BH039 | 7/09/2018 | ES1826658 | Interlab_D | <0.001 | - | <0.0001 | 0.002 | 0.013 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | 230 |
| SRT-BH039 | SRT_BH039 | 25/10/2018 | 624838 | Normal | <0.001 | <0.005 | <0.0001 | 0.006 | 0.027 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA02 | SRT_BH039 | 26/10/2018 | ES1832040 | Interlab_D | <0.001 | - | <0.0001 | 0.002 | <0.005 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | 220 |
| SRT-BH047 | SRT_BH047 | 6/09/2018 | 616629 | Normal | <0.001 | - | <0.0001 | 0.003 | 0.021 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH047 | SRT_BH047 | 25/10/2018 | 624838 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | 0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 26/11/2018 | 629922 | Normal | 0.002 | - | <0.0001 | 0.005 | 0.039 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 18/12/2018 | 634274 | Normal | 0.002 | 0.009 | <0.0001 | 0.004 | 0.031 | <1 | 2 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 17/01/2019 | 636542 | Normal | 0.001 | <0.005 | <0.0001 | 0.005 | 0.053 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 20/02/2019 | 641720 | Normal | 0.002 | 0.008 | <0.0001 | 0.002 | 0.013 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 430 | 430 | 1400 |
| SRT_BH047 | SRT_BH047 | 16/04/2019 | 651825 | Normal | <0.001 | 0.023 | <0.0001 | 0.001 | 0.013 | <1 | 7 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 14/05/2019 | 656080 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 7/06/2019 | 660130 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH047 | SRT_BH047 | 31/07/2019 | 669059 | Normal | <0.001 | 0.018 | <0.0001 | 0.001 | 0.009 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 30/08/2019 | 674722 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | 0.008 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 27/09/2019 | 679636 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 18/10/2019 | 683453 | Normal | <0.001 | <0.005 | <0.0001 | 0.002 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 15/11/2019 | 688512 | Normal | <0.001 | <0.005 | <0.0001 | 0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 18/12/2019 | 694466 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 20/01/2020 | 698379 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 704673 | Normal | <0.001 | 0.024 | <0.0001 | 0.002 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH047 | SRT_BH047 | 16/03/2020 | 708508 | Normal | <0.001 | 0.009 | <0.0001 | 0.002 | 0.011 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH048 | SRT_BH048 | 6/09/2018 | 616629 | Normal | 0.004 | - | <0.0001 | 0.011 | 0.066 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH048 | SRT_BH048 | 25/10/2018 | 624838 | Normal | 0.006 | 0.55 | <0.0001 | 0.017 | 0.18 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH048 | SRT_BH048 | 26/11/2018 | 629922 | Normal | 0.005 | - | <0.0001 | 0.011 | 0.086 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH050 | SRT_BH050 | 16/03/2020 | 708508 | Normal | <0.001 | 0.022 | <0.0001 | 0.002 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH052 | SRT_BH052 | 25/10/2018 | 624838 | Normal | 0.005 | 0.036 | <0.0001 | 0.008 | 0.086 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 26/11/2018 | 629922 | Normal | 0.003 | - | <0.0001 | 0.006 | 0.085 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 18/12/2018 | 634274 | Normal | 0.001 | 0.02 | <0.0001 | 0.004 | 0.023 | <1 | 2 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 17/01/2019 | 636542 | Normal | 0.019 | 0.029 | <0.0001 | 0.013 | 0.44 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 20/02/2019 | 641720 | Normal | <0.001 | 0.006 | <0.0001 | <0.001 | 0.006 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 16/04/2019 | 651825 | Normal | <0.001 | 0.005 | <0.0001 | <0.001 | <0.005 | <1 | 14 | <1 | <1 | <2 | <3 | <10 | - | <20 | 30 | <50 | <50 | 200 |
| SRT_BH052 | SRT_BH052 | 14/05/2019 | 656080 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 7/06/2019 | 660130 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH052 | SRT_BH052 | 31/07/2019 | 669059 | Normal | <0.001 | <0.005 | <0.0001 | 0.001 | 0.015 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 30/08/2019 | 674722 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 100 |
| SRT_BH052 | SRT_BH052 | 27/09/2019 | 679636 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | 0.007 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 18/10/2019 | 683453 | Normal | <0.001 | <0.005 | <0.0001 | 0.002 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 15/11/2019 | 688512 | Normal | 0.002 | <0.005 | <0.0001 | 0.006 | 0.035 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 18/12/2019 | 694466 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 20/01/2020 | 698379 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 704673 | Normal | <0.001 | 0.014 | <0.0001 | <0.001 | 0.007 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH052 | SRT_BH052 | 16/03/2020 | 708508 | Normal | <0.001 | 0.012 | <0.0001 | 0.002 | 0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH053 | SRT_BH053 | 6/09/2018 | 616629 | Normal | 0.014 | - | <0.0001 | 0.029 | 0.32 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH053 | SRT_BH053 | 25/10/2018 | 624838 | Normal | <0.001 | 1 | <0.0001 | 0.046 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH059 | SRT_BH059 | 25/10/2018 | 624838 | Normal | 0.002 | <0.005 | <0.0001 | 0.004 | 0.027 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 26/11/2018 | 629922 | Normal | 0.003 | - | <0.0001 | 0.008 | 0.077 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 3100 | 3100 | 2900 |
| SRT_BH059 | SRT_BH059 | 17/12/2018 | 634274 | Normal | 0.003 | <0.005 | <0.0001 | 0.007 | 0.053 | <1 | 2 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 18/01/2019 | 636542 | Normal | 0.002 | <0.005 | <0.0001 | 0.007 | 0.054 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 20/02/2019 | 641720 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 17/04/2019 | 651825 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 15/05/2019 | 656080 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 7/06/2019 | 660130 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | Metals | | | | | BTEXN | | | | | | | | TRH - NEPM 2013 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lead (Filtered) | Manganese (Filtered) | Mercury (Filtered) | Nickel (Filtered) | Zinc (Filtered) | Benzene | Toluene | Ethylbenzene | Xylene (o) | Xylene (m & p) | Xylene Total | Naphthalene (BTEXN) | BTEX (Sum of Total) - Lab Calc | F1 (C6-C10 minus BTEX) | C6-C10 Fraction | F2 (>C10-C16 minus Naphthalene) | >C10-C16 Fraction | F3 (>C16-C34 Fraction) |
| | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | 0.001 | 0.005 | 0.0001 | 0.001 | 0.005 | 1 | 1 | 1 | 1 | 2 | 3 | 10 | 1 | 20 | 20 | 50 | 50 | 100 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | 5000 | NL | NL | | | NL | NL | | 6000[#2] | | NL | | |
| 4-8m | | | | | | 5000 | NL | NL | | | NL | NL | | 6000[#2] | | NL | | |
| >8m | | | | | | 5000 | NL | NL | | | NL | NL | | 7000[#2] | | NL | | |
| NEPM 2013 Table 1C GILs, Marine Waters | 0.0044[#4] | | 0.0001[#5] | 0.007[#4] | 0.015[#6] | 500[#7] | | | | | | 50[#7] | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | *0.1* | *5* | *0.01* | *0.2* | | *10* | *8000* | *3000* | | | *6000* | | | | | | | |

| Field_ID | Location_Code | Sampled_Date_Time | Lab_Report_Number | Sample_Type | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SRT-BH059 | SRT_BH059 | 31/07/2019 | 669059 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 30/08/2019 | 674722 | Normal | 0.001 | <0.005 | <0.0001 | 0.012 | 0.12 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 27/09/2019 | 679636 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | 0.008 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 18/10/2019 | 683453 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 15/11/2019 | 688512 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 18/12/2019 | 694466 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | 0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 20/01/2020 | 698379 | Normal | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 704673 | Normal | <0.001 | <0.005 | <0.0001 | 0.005 | 0.054 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH059 | SRT_BH059 | 16/03/2020 | 708508 | Normal | <0.001 | <0.005 | <0.0001 | 0.006 | 0.042 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH060 | SRT_BH060 | 16/03/2020 | 708508 | Normal | <0.001 | 0.01 | <0.0001 | 0.008 | 0.055 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH063 | SRT_BH063 | 6/09/2018 | 616629 | Normal | <0.001 | - | <0.0001 | 0.02 | 0.22 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH063 | SRT_BH063 | 25/10/2018 | 624838 | Normal | 0.005 | 0.049 | <0.0001 | 0.083 | 0.21 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH063 | SRT_BH063 | 26/11/2018 | 629922 | Normal | 0.003 | - | <0.0001 | 0.014 | 0.067 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 730 | 730 | 1100 |
| QA02 | SRT_BH063 | 27/11/2018 | ES1835581 | Interlab_D | <0.001 | - | <0.0001 | 0.008 | 0.016 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| QA01 | SRT_BH063 | 17/12/2018 | 634274 | Field_D | 0.003 | - | <0.0001 | 0.004 | 0.015 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH063 | SRT_BH063 | 17/12/2018 | 634274 | Normal | 0.005 | <0.005 | <0.0001 | 0.005 | 0.019 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA01 | SRT_BH063 | 17/01/2019 | 636542 | Field_D | <0.001 | - | <0.0001 | 0.004 | 0.023 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH063 | SRT_BH063 | 17/01/2019 | 636542 | Normal | 0.003 | 0.011 | <0.0001 | 0.013 | 0.11 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH063 | SRT_BH063 | 21/02/2019 | 641720 | Normal | 0.002 | 0.009 | <0.0001 | 0.01 | 0.034 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA02 | SRT_BH063 | 21/02/2019 | ES1905610 | Interlab_D | <0.001 | - | <0.0001 | 0.007 | 0.005 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| SRT_BH063 | SRT_BH063 | 18/04/2019 | 651825 | Normal | 0.003 | 0.006 | <0.0001 | 0.018 | 0.085 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 200 |
| SRT_BH063 | SRT_BH063 | 15/05/2019 | 656080 | Normal | <0.001 | <0.005 | <0.0001 | 0.005 | 0.014 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH063 | SRT_BH063 | 7/06/2019 | 660130 | Normal | <0.001 | <0.005 | <0.0001 | 0.006 | 0.036 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH063 | SRT_BH063 | 29/07/2019 | 669059 | Normal | <0.001 | <0.005 | <0.0001 | 0.009 | 0.018 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH063 | SRT_BH063 | 28/08/2019 | 674722 | Normal | <0.001 | 0.017 | <0.0001 | 0.007 | 0.032 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH064 | SRT_BH064 | 6/09/2018 | 616629 | Normal | 0.002 | - | <0.0001 | 0.006 | 0.032 | 3 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA01 | SRT_BH082 | 25/10/2018 | 624838 | Field_D | <0.001 | - | <0.0001 | 0.001 | 0.009 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-BH082 | SRT_BH082 | 25/10/2018 | 624838 | Normal | <0.001 | 0.054 | <0.0001 | 0.001 | 0.009 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA01 | SRT_BH082 | 26/11/2018 | 629922 | Field_D | 0.013 | - | <0.0001 | 0.01 | 0.17 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_BH082 | SRT_BH082 | 26/11/2018 | 629922 | Normal | 0.002 | - | <0.0001 | 0.002 | 0.021 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA01 | SRT_CBH001 | 6/09/2018 | 616629 | Field_D | 0.003 | - | <0.0001 | 0.012 | 0.058 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH001 | SRT_CBH001 | 6/09/2018 | 616629 | Normal | <0.001 | - | <0.0001 | 0.004 | 0.012 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH001 | SRT_CBH001 | 25/10/2018 | 624838 | Normal | 0.004 | 0.62 | <0.0001 | 0.014 | 0.22 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH001 | SRT_CBH001 | 26/11/2018 | 629922 | Normal | 0.003 | - | <0.0001 | 0.012 | 0.094 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 510 | 510 | 1000 |
| SRT-CBH007 | SRT_CBH007 | 6/09/2018 | 616629 | Normal | 0.023 | - | <0.0001 | 0.02 | 0.48 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH015 | SRT_CBH015 | 7/09/2018 | 616629 | Normal | 0.004 | - | <0.0001 | 0.013 | 0.072 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH015 | SRT_CBH015 | 25/10/2018 | 624838 | Normal | 0.004 | *5.2* | <0.0001 | 0.016 | 0.073 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 26/11/2018 | 629922 | Normal | <0.001 | - | <0.0001 | 0.009 | 0.02 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 17/12/2018 | 634274 | Normal | 0.002 | *5.4* | <0.0001 | 0.011 | 0.04 | <1 | 2 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA02 | SRT_CBH015 | 17/12/2018 | ES1838345 | Interlab_D | <0.001 | - | <0.0001 | 0.01 | 0.024 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| SRT_CBH015 | SRT_CBH015 | 18/01/2019 | 636542 | Normal | <0.001 | *6* | <0.0001 | 0.009 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA02 | SRT_CBH015 | 18/01/2019 | ES1901871 | Interlab_D | 0.004 | - | <0.0001 | 0.012 | 0.077 | <1 | <2 | <2 | <2 | <2 | <2 | <5 | <1 | <20 | <20 | <100 | <100 | <100 |
| SRT_CBH015 | SRT_CBH015 | 20/02/2019 | 641720 | Normal | <0.001 | *6.6* | <0.0001 | 0.01 | 0.023 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 17/04/2019 | 651825 | Normal | <0.001 | *5.8* | <0.0001 | 0.01 | 0.024 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 15/05/2019 | 656080 | Normal | <0.001 | *5.1* | <0.0001 | 0.009 | 0.024 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 7/06/2019 | 660130 | Normal | <0.001 | *7.5* | <0.0001 | 0.01 | 0.027 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | SRT_CBH015 | 31/07/2019 | 669059 | Field_D | <0.001 | - | <0.0001 | 0.009 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH015 | SRT_CBH015 | 31/07/2019 | 669059 | Normal | <0.001 | *6.1* | <0.0001 | 0.009 | 0.021 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QC02 | SRT_CBH015 | 30/08/2019 | 674722 | Field_D | <0.001 | - | <0.0001 | 0.009 | 0.026 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 30/08/2019 | 674722 | Normal | <0.001 | *6.5* | <0.0001 | 0.009 | 0.025 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 300 |
| SRT_CBH015 | SRT_CBH015 | 27/09/2019 | 679636 | Normal | <0.001 | *6.8* | <0.0001 | 0.01 | 0.034 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 18/10/2019 | 683453 | Normal | <0.001 | *6.8* | <0.0001 | 0.012 | 0.023 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH015 | SRT_CBH015 | 15/11/2019 | 688512 | Normal | <0.001 | *6.3* | <0.0001 | 0.01 | 0.022 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | 540 | 540 | <100 |
| SRT_CBH015 | SRT_CBH015 | 18/12/2019 | 694466 | Normal | <0.001 | *5.5* | <0.0001 | 0.011 | 0.024 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH017 | SRT_CBH017 | 7/09/2018 | 616629 | Normal | 0.004 | - | <0.0001 | 0.006 | 0.069 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH017 | SRT_CBH017 | 25/10/2018 | 624838 | Normal | 0.004 | 0.85 | <0.0001 | 0.01 | 0.12 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 26/11/2018 | 629922 | Normal | 0.006 | - | <0.0001 | 0.016 | 0.21 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 17/12/2018 | 634274 | Normal | <0.001 | 1.8 | <0.0001 | 0.008 | 0.017 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 18/01/2019 | 636542 | Normal | <0.001 | 1.8 | <0.0001 | 0.005 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| QA01 | SRT_CBH017 | 20/02/2019 | 641720 | Field_D | <0.001 | - | <0.0001 | 0.01 | 0.023 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 20/02/2019 | 641720 | Normal | 0.002 | 1 | <0.0001 | 0.01 | 0.033 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 17/04/2019 | 651825 | Normal | <0.001 | 0.65 | <0.0001 | 0.004 | 0.008 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 15/05/2019 | 656080 | Normal | <0.001 | 0.7 | <0.0001 | 0.004 | 0.008 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 7/06/2019 | 660130 | Normal | <0.001 | *5.1* | <0.0001 | 0.006 | 0.017 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT-CBH017 | SRT_CBH017 | 31/07/2019 | 669059 | Normal | <0.001 | 2.1 | <0.0001 | 0.005 | 0.015 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 30/08/2019 | 674722 | Normal | <0.001 | 0.38 | <0.0001 | 0.004 | 0.014 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | 200 |
| QC02 | SRT_CBH017 | 27/09/2019 | 679636 | Field_D | <0.001 | - | <0.0001 | 0.002 | 0.006 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 27/09/2019 | 679636 | Normal | <0.001 | 0.45 | <0.0001 | 0.002 | 0.006 | <1 | 1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 18/10/2019 | 683453 | Normal | 0.001 | 0.6 | <0.0001 | 0.016 | 0.069 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 15/11/2019 | 688512 | Normal | <0.001 | 1.3 | <0.0001 | 0.005 | 0.008 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 18/12/2019 | 694466 | Normal | <0.001 | 2.3 | <0.0001 | 0.006 | 0.01 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |
| SRT_CBH017 | SRT_CBH017 | 20/01/2020 | 698379 | Normal | <0.001 | 3.6 | <0.0001 | 0.011 | 0.074 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | - | <20 | <20 | <50 | <50 | <100 |

**Statistical Summary**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Results | 267 | 210 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 19 | 266 | 267 | 267 | 267 | 267 |
| Number of Detects | 52 | 169 | 1 | 227 | 219 | 30 | 44 | 9 | 12 | 9 | 9 | 0 | 0 | 21 | 24 | 38 | 47 | 32 |
| Minimum Concentration | <0.001 | <0.005 | <0.0001 | <0.001 | <0.005 | <1 | <1 | <1 | <1 | <2 | <2 | <5 | <1 | <20 | <20 | <50 | <50 | <100 |
| Minimum Detect | 0.001 | 0.005 | 0.0002 | 0.001 | 0.005 | 1 | 1 | 1 | 1 | 3 | 4 | ND | ND | 20 | 30 | 50 | 50 | 100 |
| Maximum Concentration | 0.023 | 7.5 | 0.0002 | 0.083 | 0.55 | 30000 | 11000 | 460 | 420 | 1100 | 1600 | <4000 | <1 | 11000 | 52000 | <4000 | 3100 | 2900 |
| Maximum Detect | 0.023 | 7.5 | 0.0002 | 0.083 | 0.55 | 30000 | 11000 | 460 | 420 | 1100 | 1600 | ND | ND | 11000 | 52000 | 3100 | 3100 | 2900 |
| Average Concentration | 0.0012 | 0.69 | 0.000051 | 0.0084 | 0.039 | 339 | 117 | 5.6 | 5.8 | 12 | 18 | 25 | 0.5 | 210 | 680 | 100 | 92 | 96 |
| Median Concentration | 0.0005 | 0.26 | 0.00005 | 0.006 | 0.021 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 1.5 | 5 | 0.5 | 10 | 10 | 25 | 25 | 50 |
| Standard Deviation | 0.0023 | 1.5 | 0.0000092 | 0.01 | 0.066 | 2289 | 886 | 37 | 36 | 85 | 124 | 145 | 0 | 1071 | 4184 | 265 | 236 | 223 |
| Number of Guideline Exceedances | 10 | 14 | 1 | 122 | 161 | 23 | 1 | 0 | 0 | 0 | 0 | 12 | 0 | 3 | 0 | 0 | 0 | 0 |
| Number of Guideline Exceedances(Detects Only) | 10 | 14 | 1 | 122 | 161 | 23 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |

**Env Stds Comments**

#1:Not limiting: Derived water HSL exceeds water solubility limit
#2:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#3:Values calculated using hardness of 30 mg/L CaCO3. Chemical for which possible bioaccumulation and secondary poisoning effects should be considered.
#4:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARMCANZ (2000) for site spe
#5:Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCANZ (2000) for further guidance.
#6:Values calculated using hardness of 30 mg/L CaCO3. Figure may not protect key species from chro
#7:Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | NEPM 2013 - SG Cle | | | PAHs | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | NEPM 2013 - SG Cle | | | PAHs | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | NEPM 2013 - SG Cle | | | PAHs | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | F4 (>C34-C40 Fraction) | >C10-C40 (Sum of Total) | >C10-C16 SG Cleanup | >C16-C34 SG Cleanup | >C34-C40 SG Cleanup | Sum of standard 16 PAHs | Benzo(e)pyrene | Acenaphthene | Acenaphthylene | Anthracene | Benz(a)anthracene | Benzo(a) pyrene | Benzo[b+j]fluoranthene | Benzo(k)fluoranthene | Benzo(g,h,i)perylene | Chrysene | Dibenz(a,h)anthracene | Fluoranthene | Fluorene | Indeno(1,2,3-c,d)pyrene | Naphthalene-PAH | Phenanthrene | Pyrene | PAHs (Sum of total) - Lab calc | Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc |
| | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | 100 | 100 | 50 | 100 | 100 | 0.5 | 0.1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.05 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | | | | | | | | | | | 50[#7] | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | | | | | | | | | | | *0.1* | | | | | | | | | | | | | |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | | | | | | | |
| SRT-BH059 | SRT_BH059 | 31/07/2019 | 669059 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH059 | SRT_BH059 | 30/08/2019 | 674722 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH059 | SRT_BH059 | 27/09/2019 | 679636 | Normal | <100 | <100 | 120 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH059 | SRT_BH059 | 18/10/2019 | 683453 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH059 | SRT_BH059 | 15/11/2019 | 688512 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH059 | SRT_BH059 | 18/12/2019 | 694466 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.03 | <0.01 | <0.01 | 0.03 | - |
| SRT_BH059 | SRT_BH059 | 20/01/2020 | 698379 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 704673 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH059 | SRT_BH059 | 16/03/2020 | 708508 | Normal | <100 | <100 | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - |
| SRT_BH060 | SRT_BH060 | 16/03/2020 | 708508 | Normal | <100 | <100 | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - |
| SRT-BH063 | SRT_BH063 | 6/09/2018 | 616629 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-BH063 | SRT_BH063 | 25/10/2018 | 624838 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH063 | SRT_BH063 | 26/11/2018 | 629922 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA02 | SRT_BH063 | 27/11/2018 | ES1835581 | Interlab_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<0.5* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | <0.5 |
| QA01 | SRT_BH063 | 17/12/2018 | 634274 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH063 | SRT_BH063 | 17/12/2018 | 634274 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA01 | SRT_BH063 | 17/01/2019 | 636542 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH063 | SRT_BH063 | 17/01/2019 | 636542 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH063 | SRT_BH063 | 21/02/2019 | 641720 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA02 | SRT_BH063 | 21/02/2019 | ES1905610 | Interlab_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<0.5* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | <0.5 |
| SRT_BH063 | SRT_BH063 | 18/04/2019 | 651825 | Normal | <100 | 200 | <50 | 200 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH063 | SRT_BH063 | 15/05/2019 | 656080 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH063 | SRT_BH063 | 7/06/2019 | 660130 | Normal | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-BH063 | SRT_BH063 | 29/07/2019 | 669059 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH063 | SRT_BH063 | 28/08/2019 | 674722 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-BH064 | SRT_BH064 | 6/09/2018 | 616629 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA01 | SRT_BH082 | 25/10/2018 | 624838 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-BH082 | SRT_BH082 | 25/10/2018 | 624838 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA01 | SRT_BH082 | 26/11/2018 | 629922 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_BH082 | SRT_BH082 | 26/11/2018 | 629922 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA01 | SRT_CBH001 | 6/09/2018 | 616629 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH001 | SRT_CBH001 | 6/09/2018 | 616629 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH001 | SRT_CBH001 | 25/10/2018 | 624838 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH001 | SRT_CBH001 | 26/11/2018 | 629922 | Normal | 300 | 1810 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH007 | SRT_CBH007 | 6/09/2018 | 616629 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH015 | SRT_CBH015 | 7/09/2018 | 616629 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH015 | SRT_CBH015 | 25/10/2018 | 624838 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 26/11/2018 | 629922 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 17/12/2018 | 634274 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA02 | SRT_CBH015 | 17/12/2018 | ES1838345 | Interlab_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<0.5* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | <0.5 |
| SRT_CBH015 | SRT_CBH015 | 18/01/2019 | 636542 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA02 | SRT_CBH015 | 18/01/2019 | ES1901871 | Interlab_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<0.5* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | <0.5 |
| SRT_CBH015 | SRT_CBH015 | 20/02/2019 | 641720 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 17/04/2019 | 651825 | Normal | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 15/05/2019 | 656080 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 7/06/2019 | 660130 | Normal | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QC02 | SRT_CBH015 | 31/07/2019 | 669059 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH015 | SRT_CBH015 | 31/07/2019 | 669059 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QC02 | SRT_CBH015 | 30/08/2019 | 674722 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 30/08/2019 | 674722 | Normal | <100 | 300 | <50 | 200 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 27/09/2019 | 679636 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 18/10/2019 | 683453 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 15/11/2019 | 688512 | Normal | <100 | 540 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH015 | SRT_CBH015 | 18/12/2019 | 694466 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - |
| SRT-CBH017 | SRT_CBH017 | 7/09/2018 | 616629 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH017 | SRT_CBH017 | 25/10/2018 | 624838 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 26/11/2018 | 629922 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 17/12/2018 | 634274 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 18/01/2019 | 636542 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QA01 | SRT_CBH017 | 20/02/2019 | 641720 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 20/02/2019 | 641720 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 17/04/2019 | 651825 | Normal | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 15/05/2019 | 656080 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 7/06/2019 | 660130 | Normal | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT-CBH017 | SRT_CBH017 | 31/07/2019 | 669059 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 30/08/2019 | 674722 | Normal | <100 | 200 | <50 | 100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| QC02 | SRT_CBH017 | 27/09/2019 | 679636 | Field_D | <100 | <100 | - | - | - | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 27/09/2019 | 679636 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 18/10/2019 | 683453 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 15/11/2019 | 688512 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <1 | <1 | <1 | <1 | *<1* | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| SRT_CBH017 | SRT_CBH017 | 18/12/2019 | 694466 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.01 | - |
| SRT_CBH017 | SRT_CBH017 | 20/01/2020 | 698379 | Normal | <100 | <100 | <50 | <100 | <100 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - |
| **Statistical Summary** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of Results | | | | | 267 | 267 | 198 | 198 | 198 | 5 | 4 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 262 | 19 | |
| Number of Detects | | | | | 6 | 58 | 11 | 8 | 0 | 0 | 0 | 12 | 7 | 7 | 5 | 4 | 4 | 4 | 4 | 5 | 2 | 10 | 11 | 4 | 29 | 12 | 11 | 30 | 0 |
| Minimum Concentration | | | | | <100 | <100 | <50 | <100 | <100 | <0.5 | <0.1 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.05 |
| Minimum Detect | | | | | 100 | 100 | 50 | 100 | ND | ND | ND | 0.02 | 0.01 | 0.05 | 0.06 | 0.07 | 0.06 | 0.06 | 0.02 | 0.05 | 0.02 | 0.01 | 0.05 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | ND |
| Maximum Concentration | | | | | 800 | 6800 | 240 | 200 | <100 | <0.5 | <0.1 | 1.3 | <1 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.5 | 2 | <1 | 20 | 2.6 | 2 | 29.34 | <0.5 |
| Maximum Detect | | | | | 800 | 6800 | 240 | 200 | ND | ND | ND | 1.3 | 0.5 | 1 | 0.35 | 0.36 | 0.21 | 0.27 | 0.2 | 0.35 | 0.05 | 1.5 | 2 | 0.15 | 20 | 2.6 | 2 | 29.34 | ND |
| Average Concentration | | | | | 56 | 167 | 31 | 55 | 50 | 0.25 | 0.05 | 0.4 | 0.38 | 0.39 | 0.38 | 0.37 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.39 | 0.41 | 0.38 | 0.65 | 0.41 | 0.4 | 0.82 | 0.2 |
| Median Concentration | | | | | 50 | 50 | 25 | 50 | 50 | 0.25 | 0.05 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.25 |
| Standard Deviation | | | | | 52 | 491 | 30 | 24 | 0 | 0 | 0 | 0.22 | 0.21 | 0.22 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.22 | 0.27 | 0.21 | 1.7 | 0.29 | 0.24 | 2.7 | 0.094 |
| Number of Guideline Exceedances | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of Guideline Exceedances(Detects Only) | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Env Stds Comments**

#1:Not limiting: Derived water HSL exceeds water solubility limit

#2:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#3:Values calculated using hardness of 30 mg/L CaCO3. Chemical for which possible bioaccumulation and secondary poisoning effects should be considered.

#4:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARMCANZ (2000) for site spe

#5:Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCANZ (2000) for further guidance.

#6:Values calculated using hardness of 30 mg/L CaCO3. Figure may not protect key species from chro

#7:Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | Phenols | | | | | | | | | | | | | | | | | | | | | Organochlorine pesticides | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,4-Methylphenol (m,p-cresol) | 2,4,5-trichlorophenol | 2,4,6-trichlorophenol | 2,4-dichlorophenol | 2,4-dimethylphenol | 2,4-dinitrophenol | 2,6-dichlorophenol | 2-chlorophenol | 2-methylnaphthalene | 2-methylphenol (o-Cresol) | 2-nitrophenol | 3-methylcholanthrene | 4,6-Dinitro-2-methylphenol | 4,6-Dinitro-o-cyclohexyl phenol | 4-chloro-3-methylphenol | 4-nitrophenol | Pentachlorophenol | Phenol | tetrachlorophenols | Phenols (Total Halogenated) | Phenols (Total Non Halogenated) | Organochlorine pesticides EPAVic | Other organochlorine pesticides EPAVic | 4,4'-DDE | a-BHC | Aldrin | Aldrin + Dieldrin |
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | 6 | 10 | 10 | 3 | 3 | 30 | 3 | 3 | 0.1 | 3 | 10 | 0.1 | 30 | 100 | 10 | 30 | 10 | 3 | 30 | 10 | 100 | 1 | 1 | 0.1 | 0.1 | 0.1 | 0.1 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | | | 11[#5] | 400 | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | *200* | *2000* | | | | *3000* | | | | | | | | | *100* | | | | | | | | | | *3* |

| Field_ID | Location_Code | Sampled_Date_Time | Lab_Report_Number | Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CSM_BH02 | CSM_BH02 | 16/04/2019 | 651825 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH02 | CSM_BH02 | 14/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH02 | CSM_BH02 | 6/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH02 | CSM_BH02 | 30/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH02 | CSM_BH02 | 29/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH02 | CSM_BH02 | 26/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH02 | CSM_BH02 | 17/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
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| CSM_BH02 | CSM_BH02 | 25/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH02 | CSM_BH02 | 18/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH04 | CSM_BH04 | 16/04/2019 | 651825 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH04 | CSM_BH04 | 13/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH04 | CSM_BH04 | 11/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH04 | CSM_BH04 | 30/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH04 | CSM_BH04 | 29/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
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| CSM_BH04 | CSM_BH04 | 17/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | CSM_BH04 | 17/10/2019 | 683453 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 13/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH04 | 13/11/2019 | ES1937682 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 17/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH04 | CSM_BH04 | 21/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | CSM_BH04 | 21/01/2020 | 698379 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QC02 | CSM_BH04 | 25/02/2020 | 704673 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 18/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.2 | <0.2 | <0.2 | <0.2 |
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| CSM_BH05 | CSM_BH05 | 13/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
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| QC02 | CSM_BH06 | 14/05/2019 | 656080 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 6/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC04 | CSM_BH06 | 8/06/2019 | 660130 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
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| CSM_BH06 | CSM_BH06 | 28/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
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| CSM_BH06 | CSM_BH06 | 17/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
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| CSM_BH06 | CSM_BH06 | 17/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH06 | 17/12/2019 | 694466 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 16/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH06 | 16/03/2020 | ES2009232 | Interlab_D | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
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| QC02 | CSM_BH08 | 18/04/2019 | 651825 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 15/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH08 | CSM_BH08 | 6/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC03 | CSM_BH08 | 6/06/2019 | ES1917968 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 30/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH08 | CSM_BH08 | 29/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH08 | CSM_BH08 | 26/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH08 | CSM_BH08 | 18/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH08 | CSM_BH08 | 13/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH08 | CSM_BH08 | 16/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
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| CSM_BH08 | CSM_BH08 | 25/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 18/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.2 | <0.2 | <0.2 | <0.2 |
| CSM_BH09S | CSM_BH09S | 17/04/2019 | 651825 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH09S | 17/04/2019 | ES1912362 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 13/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH09S | 13/05/2019 | ES1914810 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 11/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH09S | CSM_BH09S | 29/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH09S | 29/07/2019 | ES1924197 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 28/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 140 | <30 | <10 | 140 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH09S | 28/08/2019 | EM1914568 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 25/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH09S | 25/09/2019 | ES1931406 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 16/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH09S | CSM_BH09S | 14/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH09S | CSM_BH09S | 16/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | CSM_BH09S | 16/12/2019 | ES1941823 | Interlab_D | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 21/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QC01 | CSM_BH09S | 24/02/2020 | ES2006512 | Interlab_D | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 17/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 16/04/2019 | 651825 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 13/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 11/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 30/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 29/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 25/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 16/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH10S | 16/10/2019 | ES1934142 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 14/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | CSM_BH10S | 14/11/2019 | 688512 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 20/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | CSM_BH10S | 20/01/2020 | ES2001825 | Interlab_D | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | CSM_BH10S | 17/03/2020 | 708508 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 5/06/2019 | 659250 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH10 | GASW_BH10 | 30/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |

**Appendix B**
**Table B2**
**Groundwater analytical results (September 2018 to March 2020)**

| | Phenols | | | | | | | | | | | | | | | | | | | | | Organochlorine pesticides | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,4-Methylphenol (m,p-cresol) | 2,4,5-trichlorophenol | 2,4,6-trichlorophenol | 2,4-dichlorophenol | 2,4-dimethylphenol | 2,4-dinitrophenol | 2,6-dichlorophenol | 2-chlorophenol | 2-methylnaphthalene | 2-methylphenol (o-Cresol) | 2-nitrophenol | 3-methylcholanthrene | 4,6-Dinitro-2-methylphenol | 4,6-Dinitro-o-cyclohexyl phenol | 4-chloro-3-methylphenol | 4-nitrophenol | Pentachlorophenol | Phenol | tetrachlorophenols | Phenols (Total Halogenated) | Phenols (Total Non Halogenated) | Organochlorine pesticides EPAVic | Other organochlorine pesticides EPAVic | 4,4'-DDE | a-BHC | Aldrin | Aldrin + Dieldrin |
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | 6 | 10 | 10 | 3 | 3 | 30 | 3 | 3 | 0.1 | 3 | 10 | 0.1 | 30 | 100 | 10 | 30 | 10 | 3 | 30 | 10 | 100 | 1 | 1 | 0.1 | 0.1 | 0.1 | 0.1 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | | | 11[#5] | 400 | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | *200* | *2000* | | | | *3000* | | | | | | | | | *100* | | | | | | | | | | *3* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | | | | | |
| GASW_BH10 | GASW_BH10 | 28/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH10 | GASW_BH10 | 26/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH10 | GASW_BH10 | 17/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 13/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 16/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 21/01/2020 | 698379 | Normal | 11 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 704673 | Normal | 15 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 18/03/2020 | 708508 | Normal | 33 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 5/06/2019 | 659250 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | GASW_BH11 | 5/06/2019 | 659250 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 30/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH11 | GASW_BH11 | 28/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH11 | GASW_BH11 | 25/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH11 | GASW_BH11 | 16/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 14/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 16/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 22/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 17/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 25/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 17 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH23 | GASW_BH23 | 16/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 22 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 14/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | 6 | <10 | - | <30 | <100 | <10 | <30 | <10 | 67 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 16/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 22/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 37 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 21 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 17/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 6 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 25/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH25a | GASW_BH25A | 16/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | 5 | <10 | - | <30 | <100 | <10 | <30 | <10 | 11 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 14/11/2019 | 688512 | Normal | 7 | <10 | <10 | <3 | 4 | <30 | <3 | <3 | - | 42 | <10 | - | <30 | <100 | <10 | <30 | <10 | 53 | <30 | <10 | 106 | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 16/12/2019 | 694466 | Normal | 55 | <10 | <10 | <3 | 6 | <30 | <3 | <3 | - | 46 | <10 | - | <30 | <100 | <10 | <30 | <10 | 88 | <30 | <10 | 195 | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 22/01/2020 | 698379 | Normal | 11 | <10 | <10 | <3 | 8 | <30 | <3 | <3 | - | 7 | <10 | - | <30 | <100 | <10 | <30 | <10 | 11 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 704673 | Normal | 10 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | 7 | <10 | - | <30 | <100 | <10 | <30 | <10 | 31 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25a | GASW_BH25A | 17/03/2020 | 708508 | Normal | 26 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | 21 | <10 | - | <30 | <100 | <10 | <30 | <10 | 89 | <30 | <10 | 136 | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 5/06/2019 | 659250 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC01 | GASW_BH7 | 5/06/2019 | ES1917381 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 30/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH7 | GASW_BH7 | 28/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH7 | GASW_BH7 | 25/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH7 | GASW_BH7 | 16/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 5 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 14/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 16/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | 4 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 22/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 17/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | - | - | - | - | - | - |
| SRT-BH039 | SRT_BH039 | 7/09/2018 | 616629 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA02 | SRT_BH039 | 7/09/2018 | ES1826658 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH039 | SRT_BH039 | 25/10/2018 | 624838 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA02 | SRT_BH039 | 26/10/2018 | ES1832040 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH047 | SRT_BH047 | 6/09/2018 | 616629 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH047 | SRT_BH047 | 25/10/2018 | 624838 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 26/11/2018 | 629922 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 18/12/2018 | 634274 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 17/01/2019 | 636542 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 20/02/2019 | 641720 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 16/04/2019 | 651825 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 14/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 7/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH047 | SRT_BH047 | 31/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 30/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 27/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 18/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 15/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 18/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 20/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH047 | SRT_BH047 | 16/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH048 | SRT_BH048 | 6/09/2018 | 616629 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH048 | SRT_BH048 | 25/10/2018 | 624838 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH048 | SRT_BH048 | 26/11/2018 | 629922 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH050 | SRT_BH050 | 16/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH052 | SRT_BH052 | 25/10/2018 | 624838 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 26/11/2018 | 629922 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 18/12/2018 | 634274 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 17/01/2019 | 636542 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 20/02/2019 | 641720 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 16/04/2019 | 651825 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 14/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 7/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH052 | SRT_BH052 | 31/07/2019 | 669059 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 30/08/2019 | 674722 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 27/09/2019 | 679636 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 18/10/2019 | 683453 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 15/11/2019 | 688512 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 18/12/2019 | 694466 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 20/01/2020 | 698379 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 704673 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH052 | SRT_BH052 | 16/03/2020 | 708508 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH053 | SRT_BH053 | 6/09/2018 | 616629 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH053 | SRT_BH053 | 25/10/2018 | 624838 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH059 | SRT_BH059 | 25/10/2018 | 624838 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 26/11/2018 | 629922 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 17/12/2018 | 634274 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 18/01/2019 | 636542 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 20/02/2019 | 641720 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 17/04/2019 | 651825 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 15/05/2019 | 656080 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 7/06/2019 | 660130 | Normal | <6 | <10 | <10 | <3 | <3 | <30 | <3 | <3 | - | <3 | <10 | - | <30 | <100 | <10 | <30 | <10 | <3 | <30 | <10 | <100 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | Phenols | | | | |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | | OC Pesticides | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | b-BHC | Chlordane | d-BHC | 4,4 DDD | 4,4 DDT | DDT+DDE+DDD - Lab Calc | Dieldrin | Endosulfan I (alpha) | Endosulfan II (beta) | Endosulfan Sulfate | Endrin | Endrin aldehyde | Endrin ketone | g-BHC (Lindane) | Heptachlor | Heptachlor epoxide | Hexachlorobenzene | Methoxychlor | Toxaphene | Tokuthion | Azinphos methyl |
| | | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 10 | 2 | 2 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | | 0.004[#5] | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | | | | | *90* | | | | | | | | | *100* | *3* | | | *3000* | | | *300* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | | | | |
| CSM_BH02 | CSM_BH02 | 16/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 14/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 6/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 29/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 26/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 17/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 13/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 17/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 21/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH02 | CSM_BH02 | 18/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 16/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 13/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 11/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 29/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 26/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 17/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | CSM_BH04 | 17/10/2019 | 683453 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 13/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH04 | 13/11/2019 | ES1937682 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 17/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 21/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | CSM_BH04 | 21/01/2020 | 698379 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QC02 | CSM_BH04 | 25/02/2020 | 704673 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 18/03/2020 | 708508 | Normal | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <20 | <2 | <2 |
| CSM_BH05 | CSM_BH05 | 17/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH05 | CSM_BH05 | 13/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH05 | CSM_BH05 | 11/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH05 | CSM_BH05 | 29/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 18/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 14/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | CSM_BH06 | 14/05/2019 | 656080 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 6/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC04 | CSM_BH06 | 8/06/2019 | 660130 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 28/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 26/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 17/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 13/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 17/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH06 | 17/12/2019 | 694466 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 16/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH06 | 16/03/2020 | ES2009232 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 18/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | CSM_BH08 | 18/04/2019 | 651825 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 15/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 6/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC03 | CSM_BH08 | 6/06/2019 | ES1917968 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 29/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 26/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 18/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 13/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 16/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 21/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 18/03/2020 | 708508 | Normal | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <20 | <2 | <2 |
| CSM_BH09S | CSM_BH09S | 17/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH09S | 17/04/2019 | ES1912362 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 13/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH09S | 13/05/2019 | ES1914810 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 11/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH09S | CSM_BH09S | 29/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH09S | 29/07/2019 | ES1924197 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 28/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH09S | 28/08/2019 | EM1914568 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 25/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH09S | 25/09/2019 | ES1931406 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 16/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH09S | CSM_BH09S | 14/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH09S | CSM_BH09S | 16/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | CSM_BH09S | 16/12/2019 | ES1941823 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 21/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QC01 | CSM_BH09S | 24/02/2020 | ES2006512 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 17/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 16/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 13/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 11/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 29/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 25/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 16/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH10S | 16/10/2019 | ES1934142 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 14/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | CSM_BH10S | 14/11/2019 | 688512 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 20/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | CSM_BH10S | 20/01/2020 | ES2001825 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | CSM_BH10S | 17/03/2020 | 708508 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 5/06/2019 | 659250 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | | OC Pesticides | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | b-BHC | Chlordane | d-BHC | 4,4 DDD | 4,4 DDT | DDT+DDE+DDD - Lab Calc | Dieldrin | Endosulfan I (alpha) | Endosulfan II (beta) | Endosulfan Sulfate | Endrin | Endrin aldehyde | Endrin ketone | g-BHC (Lindane) | Heptachlor | Heptachlor epoxide | Hexachlorobenzene | Methoxychlor | Toxaphene | Tokuthion | Azinphos methyl |
| | | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 10 | 2 | 2 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | | 0.004[#5] | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | | | | | *90* | | | | | | | | | *100* | *3* | | | *3000* | | | *300* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | | | | |
| GASW_BH10 | GASW_BH10 | 28/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 26/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 17/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 13/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 21/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 18/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 5/06/2019 | 659250 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC02 | GASW_BH11 | 5/06/2019 | 659250 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 28/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 25/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 25/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH23 | GASW_BH23 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 25/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH25a | GASW_BH25A | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25a | GASW_BH25A | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 5/06/2019 | 659250 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QC01 | GASW_BH7 | 5/06/2019 | ES1917381 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 30/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH7 | GASW_BH7 | 28/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH7 | GASW_BH7 | 25/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH7 | GASW_BH7 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH039 | SRT_BH039 | 7/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QA02 | SRT_BH039 | 7/09/2018 | ES1826658 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH039 | SRT_BH039 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| QA02 | SRT_BH039 | 26/10/2018 | ES1832040 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH047 | SRT_BH047 | 6/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH047 | SRT_BH047 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 18/12/2018 | 634274 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 17/01/2019 | 636542 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 20/02/2019 | 641720 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 16/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 14/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 7/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH047 | SRT_BH047 | 31/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 30/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 27/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 18/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 15/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 18/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 20/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH047 | SRT_BH047 | 16/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH048 | SRT_BH048 | 6/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH048 | SRT_BH048 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH048 | SRT_BH048 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH050 | SRT_BH050 | 16/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH052 | SRT_BH052 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 18/12/2018 | 634274 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 17/01/2019 | 636542 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 20/02/2019 | 641720 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 16/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 14/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 7/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH052 | SRT_BH052 | 31/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 30/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 27/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 18/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 15/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 18/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 20/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH052 | SRT_BH052 | 16/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH053 | SRT_BH053 | 6/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH053 | SRT_BH053 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT-BH059 | SRT_BH059 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 17/12/2018 | 634274 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 18/01/2019 | 636542 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 20/02/2019 | 641720 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 17/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 15/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 7/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | OC Pesticides | | | | | | | | | | | |
| | | | | | | | | | | | | b-BHC | Chlordane | d-BHC | 4,4 DDD | 4,4 DDT | DDT+DDE+DDD - Lab Calc | Dieldrin | Endosulfan I (alpha) | Endosulfan II (beta) | Endosulfan Sulfate | Endrin | Endrin aldehyde |
| | | | | | | | | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | | | | | | | | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | | | | | | | | 0.004[#5] | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | | | | | | | | | | | *90* | | | | | | | |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | |
| SRT-BH059 | SRT_BH059 | 31/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 30/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 27/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 18/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 15/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 18/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 20/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 704673 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH059 | SRT_BH059 | 16/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH060 | SRT_BH060 | 16/03/2020 | 708508 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH063 | SRT_BH063 | 6/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH063 | SRT_BH063 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH063 | SRT_BH063 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA02 | SRT_BH063 | 27/11/2018 | ES1835581 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QA01 | SRT_BH063 | 17/12/2018 | 634274 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 17/12/2018 | 634274 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA01 | SRT_BH063 | 17/01/2019 | 636542 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 17/01/2019 | 636542 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH063 | SRT_BH063 | 21/02/2019 | 641720 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA02 | SRT_BH063 | 21/02/2019 | ES1905610 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 18/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH063 | SRT_BH063 | 15/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH063 | SRT_BH063 | 7/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH063 | SRT_BH063 | 29/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_BH063 | SRT_BH063 | 28/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-BH064 | SRT_BH064 | 6/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA01 | SRT_BH082 | 25/10/2018 | 624838 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH082 | SRT_BH082 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA01 | SRT_BH082 | 26/11/2018 | 629922 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH082 | SRT_BH082 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA01 | SRT_CBH001 | 6/09/2018 | 616629 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-CBH001 | SRT_CBH001 | 6/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-CBH001 | SRT_CBH001 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH001 | SRT_CBH001 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-CBH007 | SRT_CBH007 | 6/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-CBH015 | SRT_CBH015 | 7/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-CBH015 | SRT_CBH015 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 17/12/2018 | 634274 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA02 | SRT_CBH015 | 17/12/2018 | ES1838345 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 18/01/2019 | 636542 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA02 | SRT_CBH015 | 18/01/2019 | ES1901871 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 20/02/2019 | 641720 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 17/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 15/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 7/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | SRT_CBH015 | 31/07/2019 | 669059 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-CBH015 | SRT_CBH015 | 31/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | SRT_CBH015 | 30/08/2019 | 674722 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 30/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 27/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 18/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 15/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH015 | SRT_CBH015 | 18/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-CBH017 | SRT_CBH017 | 7/09/2018 | 616629 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-CBH017 | SRT_CBH017 | 25/10/2018 | 624838 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 26/11/2018 | 629922 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 17/12/2018 | 634274 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 18/01/2019 | 636542 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QA01 | SRT_CBH017 | 20/02/2019 | 641720 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH017 | SRT_CBH017 | 20/02/2019 | 641720 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 17/04/2019 | 651825 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 15/05/2019 | 656080 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 7/06/2019 | 660130 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT-CBH017 | SRT_CBH017 | 31/07/2019 | 669059 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 30/08/2019 | 674722 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| QC02 | SRT_CBH017 | 27/09/2019 | 679636 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH017 | SRT_CBH017 | 27/09/2019 | 679636 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 18/10/2019 | 683453 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 15/11/2019 | 688512 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 18/12/2019 | 694466 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| SRT_CBH017 | SRT_CBH017 | 20/01/2020 | 698379 | Normal | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Statistical Summary** | | | | | | | | | | | | | | | | | | | | | | | |
| Number of Results | | | | | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 |
| Number of Detects | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minimum Concentration | | | | | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Minimum Detect | | | | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum Concentration | | | | | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <20 | <2 |
| Maximum Detect | | | | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Average Concentration | | | | | 0.05 | 0.5 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 5 | 1 |
| Median Concentration | | | | | 0.05 | 0.5 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 5 | 1 |
| Standard Deviation | | | | | 0.0049 | 0 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.0049 | 0.49 | 0 |
| Number of Guideline Exceedances | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of Guideline Exceedances(Detects Only) | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | OC Pesticides | | | | | | | | | | | |
| | | | | | | | | | | | | Endrin ketone | g-BHC (Lindane) | Heptachlor | Heptachlor epoxide | Hexachlorobenzene | Methoxychlor | Toxaphene | Tokuthion | Azinphos methyl | | | |
| | | | | | | | | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | | | |
| EQL | | | | | | | | | | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 10 | 2 | 2 | | | |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | | | | | | | | *100* | *3* | | | *3000* | | | *300* | | | |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | |
| SRT-BH059 | SRT_BH059 | 31/07/2019 | 669059 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 30/08/2019 | 674722 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 27/09/2019 | 679636 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 18/10/2019 | 683453 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 15/11/2019 | 688512 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 18/12/2019 | 694466 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 20/01/2020 | 698379 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 704673 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| SRT_BH059 | SRT_BH059 | 16/03/2020 | 708508 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH060 | SRT_BH060 | 16/03/2020 | 708508 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT-BH063 | SRT_BH063 | 6/09/2018 | 616629 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT-BH063 | SRT_BH063 | 25/10/2018 | 624838 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH063 | SRT_BH063 | 26/11/2018 | 629922 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| QA02 | SRT_BH063 | 27/11/2018 | ES1835581 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| QA01 | SRT_BH063 | 17/12/2018 | 634274 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| SRT_BH063 | SRT_BH063 | 17/12/2018 | 634274 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| QA01 | SRT_BH063 | 17/01/2019 | 636542 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| SRT_BH063 | SRT_BH063 | 17/01/2019 | 636542 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH063 | SRT_BH063 | 21/02/2019 | 641720 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| QA02 | SRT_BH063 | 21/02/2019 | ES1905610 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| SRT_BH063 | SRT_BH063 | 18/04/2019 | 651825 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH063 | SRT_BH063 | 15/05/2019 | 656080 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH063 | SRT_BH063 | 7/06/2019 | 660130 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT-BH063 | SRT_BH063 | 29/07/2019 | 669059 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT_BH063 | SRT_BH063 | 28/08/2019 | 674722 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| SRT-BH064 | SRT_BH064 | 6/09/2018 | 616629 | Normal | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <10 | <2 | <2 | | | |
| QA01 | SRT_BH082 | 25/10/2018 | 624838 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| SRT-BH082 | SRT_BH082 | 25/10/2018 | 624838 | Normal | <0.

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | | OP Pesticides | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Bolstar (Sulprofos) | Chlorfenvinphos | Chlorpyrifos | Chlorpyrifos-methyl | Coumaphos | Demeton-O | Demeton-S | Diazinon | Dichlorvos | Dimethoate | Disulfoton | EPN | Ethion | Ethoprop | Fenitrothion | Fensulfothion | Fenthion | Malathion | Merphos | Methyl parathion | Mevinphos (Phosdrin) | Monocrotophos | Naled (Dibrom) | Omethoate | Parathion | Phorate | Pirimiphos-methyl | Pyrazophos | Ronnel | Terbufos |
| | | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | | 2 | 2 | 20 | 2 | 20 | 2 | 20 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 20 | 2 | 2 | 2 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | 0.009[#5] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | *100* | | *100* | | | | | *40* | *50* | *70* | *40* | | *40* | *10* | *70* | *100* | *70* | *700* | | *7* | *50* | *20* | | *10* | *200* | | *900* | *200* | | *9* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSM_BH02 | CSM_BH02 | 16/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 14/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 6/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 30/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 29/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 26/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 17/10/2019 | 683453 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 13/11/2019 | 688512 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 17/12/2019 | 694466 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 21/01/2020 | 698379 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 704673 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH02 | CSM_BH02 | 18/03/2020 | 708508 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 16/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 13/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 11/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 30/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 29/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 26/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH04 | CSM_BH04 | 17/10/2019 | 683453 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC02 | CSM_BH04 | 17/10/2019 | 683453 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 13/11/2019 | 688512 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
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| CSM_BH10S | CSM_BH10S | 17/12/2019 | 694466 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 20/01/2020 | 698379 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC01 | CSM_BH10S | 20/01/2020 | ES2001825 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 704673 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/03/2020 | 708508 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC02 | CSM_BH10S | 17/03/2020 | 708508 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 5/06/2019 | 659250 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 30/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 

**Appendix B**
**Table B2**
**Groundwater analytical results (September 2018 to March 2020)**

| | | | | | OP Pesticides | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Bolstar (Sulprofos) | Chlorfenvinphos | Chlorpyrifos | Chlorpyrifos-methyl | Coumaphos | Demeton-O | Demeton-S | Diazinon | Dichlorvos | Dimethoate | Disulfoton | EPN | Ethion | Ethoprop | Fenitrothion | Fensulfothion | Fenthion | Malathion | Merphos | Methyl parathion | Mevinphos (Phosdrin) | Monocrotophos | Naled (Dibrom) | Omethoate | Parathion | Phorate | Pirimiphos-methyl | Pyrazophos | Ronnel | Terbufos |
| | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | 2 | 2 | 20 | 2 | 20 | 2 | 20 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 20 | 2 | 2 | 2 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | 0.009[#5] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | *100* | | *100* | | | | | *40* | *50* | *70* | *40* | | *40* | *10* | *70* | *100* | *70* | *700* | | *7* | *50* | *20* | | *10* | *200* | | *900* | *200* | | *9* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GASW_BH10 | GASW_BH10 | 28/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 26/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 17/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 13/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 21/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 704673 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 18/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 5/06/2019 | 659250 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <5 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC02 | GASW_BH11 | 5/06/2019 | 659250 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 30/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 28/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 25/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 704673 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 25/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH23 | GASW_BH23 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
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| GASW_BH23 | GASW_BH23 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
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| GASW_BH25A | GASW_BH25A | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25A | GASW_BH25A | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
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| GASW_BH25a | GASW_BH25A | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 5/06/2019 | 659250 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <5 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC01 | GASW_BH7 | 5/06/2019 | ES1917381 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 30/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| GASW_BH7 | GASW_BH7 | 28/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
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| GASW_BH7 | GASW_BH7 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
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| GASW_BH7 | GASW_BH7 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH039 | SRT_BH039 | 7/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA02 | SRT_BH039 | 7/09/2018 | ES1826658 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH039 | SRT_BH039 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA02 | SRT_BH039 | 26/10/2018 | ES1832040 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH047 | SRT_BH047 | 6/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
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| SRT_BH047 | SRT_BH047 | 17/01/2019 | 636542 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
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| SRT_BH047 | SRT_BH047 | 16/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 14/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 7/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH047 | SRT_BH047 | 31/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 30/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 27/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 18/10/2019 | 683453 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 15/11/2019 | 688512 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 18/12/2019 | 694466 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 20/01/2020 | 698379 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 704673 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH047 | SRT_BH047 | 16/03/2020 | 708508 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH048 | SRT_BH048 | 6/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH048 | SRT_BH048 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH048 | SRT_BH048 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH050 | SRT_BH050 | 16/03/2020 | 708508 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <500 | <500 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH052 | SRT_BH052 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 18/12/2018 | 634274 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 17/01/2019 | 636542 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 20/02/2019 | 641720 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 16/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 14/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 7/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH052 | SRT_BH052 | 31/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 30/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 27/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 18/10/2019 | 683453 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 15/11/2019 | 688512 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 18/12/2019 | 694466 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 20/01/2020 | 698379 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 704673 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH052 | SRT_BH052 | 16/03/2020 | 708508 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH053 | SRT_BH053 | 6/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH053 | SRT_BH053 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH059 | SRT_BH059 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 17/12/2018 | 634274 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 18/01/2019 | 636542 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 20/02/2019 | 641720 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 17/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 15/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 7/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | OP Pesticides | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bolstar (Sulprofos) | Chlorfenvinphos | Chlorpyrifos | Chlorpyrifos-methyl | Coumaphos | Demeton-O | Demeton-S | Diazinon | Dichlorvos | Dimethoate | Disulfoton | EPN | Ethion | Ethoprop | Fenitrothion | Fensulfothion | Fenthion | Malathion | Merphos | Methyl parathion | Mevinphos (Phosdrin) | Monocrotophos | Naled (Dibrom) | Omethoate | Parathion | Phorate | Pirimiphos-methyl | Pyrazophos | Ronnel | Terbufos |
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | 2 | 2 | 20 | 2 | 20 | 2 | 20 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 20 | 2 | 2 | 2 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | 0.009[#5] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | *100* | | *100* | | | | | *40* | *50* | *70* | *40* | | *40* | *10* | *70* | *100* | *70* | *700* | | *7* | *50* | *20* | | *10* | *200* | | *900* | *200* | | *9* |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SRT-BH059 | SRT_BH059 | 31/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 30/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 27/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 18/10/2019 | 683453 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 15/11/2019 | 688512 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 18/12/2019 | 694466 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 20/01/2020 | 698379 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 704673 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH059 | SRT_BH059 | 16/03/2020 | 708508 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH060 | SRT_BH060 | 16/03/2020 | 708508 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | *<500* | *<500* | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH063 | SRT_BH063 | 6/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH063 | SRT_BH063 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH063 | SRT_BH063 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA02 | SRT_BH063 | 27/11/2018 | ES1835581 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| QA01 | SRT_BH063 | 17/12/2018 | 634274 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 17/12/2018 | 634274 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA01 | SRT_BH063 | 17/01/2019 | 636542 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 17/01/2019 | 636542 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH063 | SRT_BH063 | 21/02/2019 | 641720 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA02 | SRT_BH063 | 21/02/2019 | ES1905610 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 18/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH063 | SRT_BH063 | 15/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH063 | SRT_BH063 | 7/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH063 | SRT_BH063 | 29/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_BH063 | SRT_BH063 | 28/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-BH064 | SRT_BH064 | 6/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA01 | SRT_BH082 | 25/10/2018 | 624838 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH082 | SRT_BH082 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA01 | SRT_BH082 | 26/11/2018 | 629922 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH082 | SRT_BH082 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA01 | SRT_CBH001 | 6/09/2018 | 616629 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-CBH001 | SRT_CBH001 | 6/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-CBH001 | SRT_CBH001 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH001 | SRT_CBH001 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-CBH007 | SRT_CBH007 | 6/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-CBH015 | SRT_CBH015 | 7/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-CBH015 | SRT_CBH015 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 17/12/2018 | 634274 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA02 | SRT_CBH015 | 17/12/2018 | ES1838345 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 18/01/2019 | 636542 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA02 | SRT_CBH015 | 18/01/2019 | ES1901871 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 20/02/2019 | 641720 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 17/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 15/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 7/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC02 | SRT_CBH015 | 31/07/2019 | 669059 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT-CBH015 | SRT_CBH015 | 31/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC02 | SRT_CBH015 | 30/08/2019 | 674722 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 30/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 27/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 18/10/2019 | 683453 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 15/11/2019 | 688512 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH015 | SRT_CBH015 | 18/12/2019 | 694466 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-CBH017 | SRT_CBH017 | 7/09/2018 | 616629 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-CBH017 | SRT_CBH017 | 25/10/2018 | 624838 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 26/11/2018 | 629922 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 17/12/2018 | 634274 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 18/01/2019 | 636542 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QA01 | SRT_CBH017 | 20/02/2019 | 641720 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH017 | SRT_CBH017 | 20/02/2019 | 641720 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 17/04/2019 | 651825 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 15/05/2019 | 656080 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 7/06/2019 | 660130 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT-CBH017 | SRT_CBH017 | 31/07/2019 | 669059 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 30/08/2019 | 674722 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| QC02 | SRT_CBH017 | 27/09/2019 | 679636 | Field_D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH017 | SRT_CBH017 | 27/09/2019 | 679636 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 18/10/2019 | 683453 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 15/11/2019 | 688512 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 18/12/2019 | 694466 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| SRT_CBH017 | SRT_CBH017 | 20/01/2020 | 698379 | Normal | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |

**Statistical Summary**

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Results | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 |
| Number of Detects | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minimum Concentration | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 | |
| Minimum Detect | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | |
| Maximum Concentration | <2 | <2 | <20 | <2 | <20 | <2 | <20 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <500 | <500 | <2 | <2 | <2 | <5 | <2 | <2 | <2 | <2 | <2 | <20 | <2 | <2 | <2 |
| Maximum Detect | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Average Concentration | 1 | 1 | 10 | 1 | 10 | 1 | 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3.4 | 3.4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1 | 1 | 1 | |
| Median Concentration | 1 | 1 | 10 | 1 | 10 | 1 | 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1 | 1 | 1 | |
| Standard Deviation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 25 | 0 | 0 | 0 | 0.15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Number of Guideline Exceedances | 0 | 0 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Number of Guideline Exceedances(Detects Only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

**Env Stds Comments**

#1:Not limiting: Derived water HSL exceeds water solubility limit
#2:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#3:Values calculated using hardness of 30 mg/L CaCO3. Chemical for which possible bioaccumulation and secondary poisoning effects should be considered.
#4:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARMCANZ (2000) for site spe
#5:Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCANZ (2000) for further guidance.
#6:Values calculated using hardness of 30 mg/L CaCO3. Figure may not protect key species from chro
#7:Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for

**Appendix B**
**Table B2**
**Groundwater analytical results (September 2018 to March 2020)**

| | | | | | PCBs | | | | | | | | Herbicides |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Trichloronate | Tetrachlorvinphos | Arochlor 1016 | Arochlor 1221 | Arochlor 1232 | Arochlor 1242 | Arochlor 1248 | Arochlor 1254 | Arochlor 1260 | PCBs (Total) | Dinoseb |
| | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | *1000* | | | | | | | | | |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | |
| CSM_BH02 | CSM_BH02 | 16/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 14/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 6/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 29/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 26/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 17/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 13/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 17/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 21/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH02 | CSM_BH02 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH02 | CSM_BH02 | 18/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 16/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 13/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 11/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 29/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 26/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 17/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC02 | CSM_BH04 | 17/10/2019 | 683453 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 13/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH04 | 13/11/2019 | ES1937682 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 17/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 21/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC02 | CSM_BH04 | 21/01/2020 | 698379 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH04 | CSM_BH04 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| QC02 | CSM_BH04 | 25/02/2020 | 704673 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH04 | CSM_BH04 | 18/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH05 | CSM_BH05 | 17/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH05 | CSM_BH05 | 13/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH05 | CSM_BH05 | 11/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH05 | CSM_BH05 | 29/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 18/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 14/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC02 | CSM_BH06 | 14/05/2019 | 656080 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 6/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC04 | CSM_BH06 | 8/06/2019 | 660130 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 28/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 26/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 17/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 13/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 17/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH06 | 17/12/2019 | 694466 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH06 | CSM_BH06 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH06 | CSM_BH06 | 16/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC01 | CSM_BH06 | 16/03/2020 | ES2009232 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 18/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC02 | CSM_BH08 | 18/04/2019 | 651825 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 15/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 6/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC03 | CSM_BH08 | 6/06/2019 | ES1917968 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 29/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 26/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 18/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 13/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 16/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 21/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH08 | CSM_BH08 | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH08 | CSM_BH08 | 18/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH09S | CSM_BH09S | 17/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC01 | CSM_BH09S | 17/04/2019 | ES1912362 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 13/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH09S | 13/05/2019 | ES1914810 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 11/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH09S | CSM_BH09S | 29/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH09S | 29/07/2019 | ES1924197 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 28/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH09S | 28/08/2019 | EM1914568 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 25/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH09S | 25/09/2019 | ES1931406 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 16/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH09S | CSM_BH09S | 14/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH09S | CSM_BH09S | 16/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC02 | CSM_BH09S | 16/12/2019 | ES1941823 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 21/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH09S | CSM_BH09S | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| QC01 | CSM_BH09S | 24/02/2020 | ES2006512 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH09S | CSM_BH09S | 17/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 16/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 13/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 11/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 29/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 25/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 16/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH10S | 16/10/2019 | ES1934142 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 14/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC02 | CSM_BH10S | 14/11/2019 | 688512 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 20/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC01 | CSM_BH10S | 20/01/2020 | ES2001825 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| CSM_BH10S | CSM_BH10S | 25/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| CSM_BH10S | CSM_BH10S | 17/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC02 | CSM_BH10S | 17/03/2020 | 708508 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 5/06/2019 | 659250 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| GASW_BH10 | GASW_BH10 | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | PCBs | | | | | | | | Herbicides |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Trichloronate | Tetrachlorvinphos | Arochlor 1016 | Arochlor 1221 | Arochlor 1232 | Arochlor 1242 | Arochlor 1248 | Arochlor 1254 | Arochlor 1260 | PCBs (Total) | Dinoseb |
| | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | *1000* | | | | | | | | | |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | |
| GASW_BH10 | GASW_BH10 | 28/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH10 | GASW_BH10 | 26/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH10 | GASW_BH10 | 17/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH10 | GASW_BH10 | 13/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH10 | GASW_BH10 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH10 | GASW_BH10 | 21/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH10 | GASW_BH10 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH10 | GASW_BH10 | 18/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH11 | GASW_BH11 | 5/06/2019 | 659250 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC02 | GASW_BH11 | 5/06/2019 | 659250 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH11 | GASW_BH11 | 28/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH11 | GASW_BH11 | 25/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH11 | GASW_BH11 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH11 | GASW_BH11 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH11 | GASW_BH11 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH11 | GASW_BH11 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH11 | GASW_BH11 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH11 | GASW_BH11 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH23 | GASW_BH23 | 25/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH23 | GASW_BH23 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH23 | GASW_BH23 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH23 | GASW_BH23 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH23 | GASW_BH23 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH23 | GASW_BH23 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH23 | GASW_BH23 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH25A | GASW_BH25A | 25/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH25a | GASW_BH25A | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH25A | GASW_BH25A | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH25A | GASW_BH25A | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH25A | GASW_BH25A | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH25A | GASW_BH25A | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH25a | GASW_BH25A | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH7 | GASW_BH7 | 5/06/2019 | 659250 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC01 | GASW_BH7 | 5/06/2019 | ES1917381 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 30/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH7 | GASW_BH7 | 28/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH7 | GASW_BH7 | 25/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH7 | GASW_BH7 | 16/10/2019 | 683453 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH7 | GASW_BH7 | 14/11/2019 | 688512 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH7 | GASW_BH7 | 16/12/2019 | 694466 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH7 | GASW_BH7 | 22/01/2020 | 698379 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| GASW_BH7 | GASW_BH7 | 24/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| GASW_BH7 | GASW_BH7 | 17/03/2020 | 708508 | Normal | - | - | - | - | - | - | - | - | - | - | <100 |
| SRT-BH039 | SRT_BH039 | 7/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA02 | SRT_BH039 | 7/09/2018 | ES1826658 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH039 | SRT_BH039 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA02 | SRT_BH039 | 26/10/2018 | ES1832040 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH047 | SRT_BH047 | 6/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-BH047 | SRT_BH047 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 18/12/2018 | 634274 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 17/01/2019 | 636542 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 20/02/2019 | 641720 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 16/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 14/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 7/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-BH047 | SRT_BH047 | 31/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 30/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 27/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 18/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 15/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 18/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 20/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH047 | SRT_BH047 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH047 | SRT_BH047 | 16/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-BH048 | SRT_BH048 | 6/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-BH048 | SRT_BH048 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH048 | SRT_BH048 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH050 | SRT_BH050 | 16/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-BH052 | SRT_BH052 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 18/12/2018 | 634274 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 17/01/2019 | 636542 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 20/02/2019 | 641720 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 16/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 14/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 7/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-BH052 | SRT_BH052 | 31/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 30/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 27/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 18/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 15/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 18/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 20/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH052 | SRT_BH052 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH052 | SRT_BH052 | 16/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-BH053 | SRT_BH053 | 6/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-BH053 | SRT_BH053 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-BH059 | SRT_BH059 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0 | <100 |
| SRT_BH059 | SRT_BH059 | 17/12/2018 | 634274 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 18/01/2019 | 636542 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 20/02/2019 | 641720 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 17/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 15/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 7/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |

# Appendix B
## Table B2
## Groundwater analytical results (September 2018 to March 2020)

| | | | | | | PCBs | | | | | | | | Herbicides |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Trichloronate | Tetrachlorvinphos | Arochlor 1016 | Arochlor 1221 | Arochlor 1232 | Arochlor 1242 | Arochlor 1248 | Arochlor 1254 | Arochlor 1260 | PCBs (Total) | Dinoseb |
| | | | | | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| EQL | | | | | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | | | | | | | | | | | | |
| *NHMRC Recreational Guidelines 2008 - Health* | | | | | | *1000* | | | | | | | | | |
| **Field_ID** | **Location_Code** | **Sampled_Date_Time** | **Lab_Report_Number** | **Sample_Type** | | | | | | | | | | | |
| SRT-BH059 | SRT_BH059 | 31/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 30/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 27/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 18/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 15/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 18/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 20/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 704673 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH059 | SRT_BH059 | 26/02/2020 | 706746 | Normal | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH059 | SRT_BH059 | 16/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT_BH060 | SRT_BH060 | 16/03/2020 | 708508 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-BH063 | SRT_BH063 | 6/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-BH063 | SRT_BH063 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH063 | SRT_BH063 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA02 | SRT_BH063 | 27/11/2018 | ES1835581 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| QA01 | SRT_BH063 | 17/12/2018 | 634274 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 17/12/2018 | 634274 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA01 | SRT_BH063 | 17/01/2019 | 636542 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 17/01/2019 | 636542 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH063 | SRT_BH063 | 21/02/2019 | 641720 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA02 | SRT_BH063 | 21/02/2019 | ES1905610 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH063 | SRT_BH063 | 18/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT_BH063 | SRT_BH063 | 15/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH063 | SRT_BH063 | 7/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-BH063 | SRT_BH063 | 29/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_BH063 | SRT_BH063 | 28/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-BH064 | SRT_BH064 | 6/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA01 | SRT_BH082 | 25/10/2018 | 624838 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT-BH082 | SRT_BH082 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA01 | SRT_BH082 | 26/11/2018 | 629922 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_BH082 | SRT_BH082 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA01 | SRT_CBH001 | 6/09/2018 | 616629 | Field_D | - | - | - | - | - | - | - | - | - | - | <100 |
| SRT-CBH001 | SRT_CBH001 | 6/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-CBH001 | SRT_CBH001 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH001 | SRT_CBH001 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-CBH007 | SRT_CBH007 | 6/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-CBH015 | SRT_CBH015 | 7/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-CBH015 | SRT_CBH015 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 17/12/2018 | 634274 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA02 | SRT_CBH015 | 17/12/2018 | ES1838345 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 18/01/2019 | 636542 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA02 | SRT_CBH015 | 18/01/2019 | ES1901871 | Interlab_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 20/02/2019 | 641720 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 17/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 15/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 7/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| QC02 | SRT_CBH015 | 31/07/2019 | 669059 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT-CBH015 | SRT_CBH015 | 31/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC02 | SRT_CBH015 | 30/08/2019 | 674722 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH015 | SRT_CBH015 | 30/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 27/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 18/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 15/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH015 | SRT_CBH015 | 18/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-CBH017 | SRT_CBH017 | 7/09/2018 | 616629 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT-CBH017 | SRT_CBH017 | 25/10/2018 | 624838 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 26/11/2018 | 629922 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 17/12/2018 | 634274 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 18/01/2019 | 636542 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QA01 | SRT_CBH017 | 20/02/2019 | 641720 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH017 | SRT_CBH017 | 20/02/2019 | 641720 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 17/04/2019 | 651825 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 15/05/2019 | 656080 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 7/06/2019 | 660130 | Normal | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| SRT-CBH017 | SRT_CBH017 | 31/07/2019 | 669059 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 30/08/2019 | 674722 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| QC02 | SRT_CBH017 | 27/09/2019 | 679636 | Field_D | - | - | - | - | - | - | - | - | - | - | - |
| SRT_CBH017 | SRT_CBH017 | 27/09/2019 | 679636 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 18/10/2019 | 683453 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 15/11/2019 | 688512 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 18/12/2019 | 694466 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |
| SRT_CBH017 | SRT_CBH017 | 20/01/2020 | 698379 | Normal | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <100 |

**Statistical Summary**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Results | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 204 | 230 |
| Number of Detects | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Minimum Concentration | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0 | <100 |
| Minimum Detect | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Maximum Concentration | <2 | <2 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <1 | <100 |
| Maximum Detect | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Average Concentration | 1 | 1 | 0.89 | 0.5 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.5 | 50 |
| Median Concentration | 1 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 50 |
| Standard Deviation | 0 | 0 | 0.8 | 0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.035 | 0 |
| Number of Guideline Exceedances | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of Guideline Exceedances(Detects Only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Env Stds Comments**

#1:Not limiting: Derived water HSL exceeds water solubility limit
#2:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#3:Values calculated using hardness of 30 mg/L CaCO3. Chemical for which possible bioaccumulation and secondary poisoning effects should be considered.
#4:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARMCANZ (2000) for site spe
#5:Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCANZ (2000) for further guidance.
#6:Values calculated using hardness of 30 mg/L CaCO3. Figure may not protect key species from chro
#7:Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for

**Appendix B**

**Table B3 Summary of groundwater gauging results - October 2019 to March 2020**

| Well ID | Sampling Event | Date Measured | SWL (mbTOC) | BOC (mbTOC) | Elevation of well TOC (mAHD) | SWL (mAHD) | Lithology (mAHD) | Well screen (mAHD) | Lithology (mbgl) | Well screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CSM_BH02 | Event 13 - Oct 2019 | 17/10/2019 | 20.452 | 33.97 | 21.424 | 0.972 | 14.28-14.88 concrete / fill<br>13.98-14.28 residual soil<br>(20.12)-13.98 sandstone | (20.12)-0.88 | | |
| CSM_BH02 | Event 14 - Nov 2019 | 13/11/2019 | 20.342 | 33.65 | 21.424 | 1.082 | | | | |
| CSM_BH02 | Event 15 - Dec 2019 | 17/12/2019 | 20.263 | 33.53 | 21.424 | 1.161 | | | | |
| CSM_BH02 | Event 16 - Jan 2020 | 21/01/2020 | 20.206 | 33.55 | 21.424 | 1.218 | | | | |
| CSM_BH02 | Event 17 - Feb 2020 | 25/02/2020 | 20.315 | 33.45 | 21.424 | 1.109 | | | | |
| CSM_BH02 | Event 18 - Mar 2020 | 18/03/2020 | 20.14 | 33.49 | 21.424 | 1.284 | | | | |
| CSM_BH04 | Event 13 - Oct 2019 | 17/10/2019 | 21.656 | 34.276 | 15.814 | -5.842 | 13.91-15.91 fill<br>5.91-13.91 residual (sand, claey sand, sandy clay)<br>(20.91)-5.91 sandstone | (20.91)-(5.91) | | |
| CSM_BH04 | Event 14 - Nov 2019 | 13/11/2019 | 21.21 | 34.37 | 15.814 | -5.396 | | | | |
| CSM_BH04 | Event 15 - Dec 2019 | 17/12/2019 | 20.86 | 34.68 | 15.814 | -5.046 | | | | |
| CSM_BH04 | Event 16 - Jan 2020 | 21/01/2020 | 20.79 | 34.02 | 15.814 | -4.976 | | | | |
| CSM_BH04 | Event 17 - Feb 2020 | 25/02/2020 | 20.856 | 34.23 | 15.814 | -5.042 | | | | |
| CSM_BH04 | Event 18 - Mar 2020 | 18/03/2020 | 21.01 | 33.88 | 15.814 | -5.196 | | | | |
| CSM_BH06 | Event 13 - Oct 2019 | 17/10/2019 | 20.871 | 35.404 | 21.93 | 1.059 | 19.52-20.02 fill<br>14.02-19.52 residual (clayey sand, sandy clay, clay)<br>10.02-14.02 residual / weathered shale / weathered claystone<br>(13.02)-10.02 sandstone | (13.02)-2.02 | | |
| CSM_BH06 | Event 14 - Nov 2019 | 13/11/2019 | 20.825 | 35.39 | 21.93 | 1.105 | | | | |
| CSM_BH06 | Event 15 - Dec 2019 | 17/12/2019 | 20.746 | 35.43 | 21.93 | 1.184 | | | | |
| CSM_BH06 | Event 17 - Feb 2020 | 25/02/2020 | 20.75 | 35.37 | 21.93 | 1.18 | | | | |
| CSM_BH06 | Event 18 - Mar 2020 | 16/03/2020 | 20.615 | 35.53 | 21.93 | 1.315 | | | | |
| CSM_BH08 | Event 13 - Oct 2019 | 18/10/2019 | 13.83 | 35.03 | 14.694 | 0.864 | 14.28-14.88 concrete / fill<br>13.98-14.28 residual (sandy clay)<br>(21.88)-13.98 sandstone | (21.88)-(6.88) | | |
| CSM_BH08 | Event 14 - Nov 2019 | 13/11/2019 | 13.755 | 33.23 | 14.694 | 0.939 | | | | |
| CSM_BH08 | Event 15 - Dec 2019 | 16/12/2019 | 13.69 | 35 | 14.694 | 1.004 | | | | |
| CSM_BH08 | Event 16 - Jan 2020 | 21/01/2020 | 13.66 | 35.01 | 14.694 | 1.034 | | | | |
| CSM_BH08 | Event 17 - Feb 2020 | 25/02/2020 | 13.735 | 34.98 | 14.694 | 0.959 | | | | |
| CSM_BH08 | Event 18 - Mar 2020 | 18/03/2020 | 13.63 | 35.01 | 14.694 | 1.064 | | | | |
| CSM_BH09S | Event 13 - Oct 2019 | 16/10/2019 | 4.051 | 6.593 | 20.807 | 16.756 | 20.59-20.89 fill<br>14.39-20.59 residual (weathered shale) | 14.39-17.89 | | |
| CSM_BH09S | Event 14 - Nov 2019 | 14/11/2019 | 4.215 | 6.59 | 20.807 | 16.592 | | | | |
| CSM_BH09S | Event 15 - Dec 2019 | 16/12/2019 | 4.315 | 6.6 | 20.807 | 16.492 | | | | |
| CSM_BH09S | Event 16 - Jan 2020 | 22/01/2020 | 4.274 | 6.595 | 20.807 | 16.533 | | | | |
| CSM_BH09S | Event 17 - Feb 2020 | 24/02/2020 | 4.11 | 6.6 | 20.807 | 16.697 | | | | |
| CSM_BH09S | Event 18 - Mar 2020 | 17/03/2020 | 4.182 | 6.59 | 20.807 | 16.625 | | | | |
| CSM_BH10S | Event 13 - Oct 2019 | 16/10/2019 | 4.546 | 9.828 | 15.583 | 11.037 | 13.68-15.68 fill<br>9.68-13.68 redisual soil (sand)<br>5.68-9.68 residual soil (clayey sand and sandy clay) | 5.98-9.68 | | |
| CSM_BH10S | Event 14 - Nov 2019 | 14/11/2019 | 4.795 | 9.82 | 15.583 | 10.788 | | | | |
| CSM_BH10S | Event 15 - Dec 2019 | 17/12/2019 | 5.095 | 10 | 15.583 | 10.488 | | | | |
| CSM_BH10S | Event 16 - Jan 2020 | 20/01/2020 | 5.173 | 9.85 | 15.583 | 10.41 | | | | |
| CSM_BH10S | Event 17 - Feb 2020 | 25/02/2020 | 4.204 | 10.04 | 15.583 | 11.379 | | | | |
| CSM_BH10S | Event 18 - Mar 2020 | 17/03/2020 | 4.05 | 10 | 15.583 | 11.533 | | | | |
| GASW_BH10 | Event 13 - Oct 2019 | 17/10/2019 | 19.408 | 25.008 | 20.493 | 1.085 | | | 0-3.5 fill<br>3.5-6 silty clay<br>6-8.5 shale<br>8.5-25 sandstone | 22-25 |
| GASW_BH10 | Event 14 - Nov 2019 | 13/11/2019 | 19.396 | 24.79 | 20.493 | 1.097 | | | | |
| GASW_BH10 | Event 15 - Dec 2019 | 16/12/2019 | 19.33 | 25.01 | 20.493 | 1.163 | | | | |
| GASW_BH10 | Event 16 - Jan 2020 | 21/01/2020 | 19.28 | 24.98 | 20.493 | 1.213 | | | | |
| GASW_BH10 | Event 17 - Feb 2020 | 24/02/2020 | 19.195 | 25.66 | 20.493 | 1.298 | | | | |
| GASW_BH10 | Event 18 - Mar 2020 | 18/03/2020 | 19.16 | 25 | 20.493 | 1.333 | | | | |
| GASW_BH11 | Event 13 - Oct 2019 | 16/10/2019 | 4.38 | 8.05 | 20.548 | 16.168 | | | 0-3.7 fill<br>3.7-6 silty clay<br>6-7 shale<br>7-9 sandstone | 6-9 |
| GASW_BH11 | Event 14 - Nov 2019 | 14/11/2019 | 4.57 | 8.05 | 20.548 | 15.978 | | | | |
| GASW_BH11 | Event 15 - Dec 2019 | 16/12/2019 | 4.636 | 8.05 | 20.548 | 15.912 | | | | |
| GASW_BH11 | Event 16 - Jan 2020 | 22/01/2020 | 4.742 | 8.05 | 20.548 | 15.806 | | | | |
| GASW_BH11 | Event 17 - Feb 2020 | 24/02/2020 | 4.57 | 8.05 | 20.548 | 15.978 | | | | |
| GASW_BH11 | Event 18 - Mar 2020 | 17/03/2020 | 5.06 | 8.04 | 20.548 | 15.488 | | | | |
| GASW_BH23 | Event 13 - Oct 2019 | 16/10/2019 | 2.685 | 3.915 | 19.605 | 16.92 | 17.01-19.61 fill | 17.01-18.61 | | |
| GASW_BH23 | Event 14 - Nov 2019 | 14/11/2019 | 2.698 | 3.92 | 19.605 | 16.907 | | | | |
| GASW_BH23 | Event 15 - Dec 2019 | 16/12/2019 | 2.66 | 3.92 | 19.605 | 16.945 | | | | |
| GASW_BH23 | Event 16 - Jan 2020 | 22/01/2020 | 2.835 | 3.91 | 19.605 | 16.77 | | | | |
| GASW_BH23 | Event 17 - Feb 2020 | 24/02/2020 | 3.064 | 3.915 | 19.605 | 16.541 | | | | |
| GASW_BH23 | Event 18 - Mar 2020 | 17/03/2020 | 2.85 | 3.91 | 19.605 | 16.755 | | | | |
| GASW_BH25a | Event 13 - Oct 2019 | 16/10/2019 | 1.342 | 2.946 | 19.631 | 18.289 | 16.73-19.63 fill / concrete | 16.73-18.63 | | |
| GASW_BH25a | Event 14 - Nov 2019 | 14/11/2019 | 1.36 | 2.95 | 19.631 | 18.271 | | | | |
| GASW_BH25a | Event 15 - Dec 2019 | 16/12/2019 | 1.333 | 2.95 | 19.631 | 18.298 | | | | |
| GASW_BH25a | Event 16 - Jan 2020 | 22/01/2020 | 1.617 | 2.95 | 19.631 | 18.014 | | | | |
| GASW_BH25a | Event 17 - Feb 2020 | 24/02/2020 | 1.825 | 2.95 | 19.631 | 17.806 | | | | |
| GASW_BH25a | Event 18 - Mar 2020 | 17/03/2020 | 1.6 | 2.935 | 19.631 | 18.031 | | | | |
| GASW_BH7 | Event 13 - Oct 2019 | 16/10/2019 | 3.903 | 6.197 | 21.17 | 17.267 | 20.59-20.89 fill<br>14.39-20.59 residual (weathered shale) | | 0-2.7 fill<br>2.7-5 silty clay<br>5-7 shale | 5-7 |
| GASW_BH7 | Event 14 - Nov 2019 | 14/11/2019 | 3.97 | 6.17 | 21.17 | 17.2 | | | | |
| GASW_BH7 | Event 15 - Dec 2019 | 16/12/2019 | 4.01 | 6.17 | 21.17 | 17.16 | | | | |
| GASW_BH7 | Event 16 - Jan 2020 | 22/01/2020 | 4.455 | 6.17 | 21.17 | 16.715 | | | | |
| GASW_BH7 | Event 17 - Feb 2020 | 24/02/2020 | 4.813 | 6.21 | 21.17 | 16.357 | | | | |
| GASW_BH7 | Event 18 - Mar 2020 | 17/03/2020 | 5.36 | 6.16 | 21.17 | 15.81 | | | | |
| SRT_BH047 | Event 13 - Oct 2019 | 18/10/2019 | 4.333 | 6.94 | 21.31 | 16.977 | 19.71-21.11 fill<br>14.18-19.71 laminite / residual soil<br>6.31-14.18 bedrock sandstone | 11.91-15.41 | | |
| SRT_BH047 | Event 14 - Nov 2019 | 15/11/2019 | 5.022 | 6.95 | 21.31 | 16.288 | | | | |
| SRT_BH047 | Event 15 - Dec 2019 | 18/12/2019 | 5.65 | 6.97 | 21.31 | 15.66 | | | | |
| SRT_BH047 | Event 16 - Jan 2020 | 20/01/2020 | 4.39 | 7.03 | 21.31 | 16.92 | | | | |
| SRT_BH047 | Event 17 - Feb 2020 | 26/02/2020 | 4.08 | 6.96 | 21.31 | 17.23 | | | | |
| SRT_BH047 | Event 18 - Mar 2020 | 16/03/2020 | 3.58 | 6.935 | 21.31 | 17.73 | | | | |
| SRT_BH050 | Event 18 - Mar 2020 | 16/03/2020 | 2.335 | 2.77 | - | - | | | | |
| SRT_BH052 | Event 13 - Oct 2019 | 18/10/2019 | 6.162 | 7.92 | 21.4 | 15.238 | 19.55-21.40 fill<br>16.40-19.55 residual soil<br>6.08-16.40 sandstone | 14.2-16.9 | | |
| SRT_BH052 | Event 14 - Nov 2019 | 15/11/2019 | 6.265 | 7.93 | 21.4 | 15.135 | | | | |
| SRT_BH052 | Event 15 - Dec 2019 | 18/12/2019 | 6.37 | 7.91 | 21.4 | 15.03 | | | | |
| SRT_BH052 | Event 16 - Jan 2020 | 20/01/2020 | 6.205 | 7.92 | 21.4 | 15.195 | | | | |
| SRT_BH052 | Event 17 - Feb 2020 | 26/02/2020 | 5.71 | 7.92 | 21.4 | 15.69 | | | | |
| SRT_BH052 | Event 18 - Mar 2020 | 16/03/2020 | 5.78 | 7.915 | 21.4 | 15.62 | | | | |
| SRT_BH059 | Event 13 - Oct 2019 | 18/10/2019 | 3.082 | 6 | 22.84 | 19.758 | 20.04-22.84 fill<br>16.29-20.04 shale<br>7.96-16.29 sandstone | 16.29-21.55 | | |
| SRT_BH059 | Event 14 - Nov 2019 | 15/11/2019 | 4.142 | 6 | 22.84 | 18.698 | | | | |
| SRT_BH059 | Event 15 - Dec 2019 | 18/12/2019 | 4.89 | 6.01 | 22.84 | 17.95 | | | | |
| SRT_BH059 | Event 16 - Jan 2020 | 20/01/2020 | 2.98 | 6 | 22.84 | 19.86 | | | | |
| SRT_BH059 | Event 17 - Feb 2020 | 26/02/2020 | 3.36 | 6 | 22.84 | 19.48 | | | | |
| SRT_BH059 | Event 18 - Mar 2020 | 16/03/2020 | 2.99 | 6 | 22.84 | 19.85 | | | | |
| SRT_BH060 | Event 18 - Mar 2020 | 16/03/2020 | 3.84 | 4.29 | - | - | | | | |
| SRT_CBH015 | Event 13 - Oct 2019 | 18/10/2019 | 4.18 | 5.91 | 22.81 | 18.63 | 20-22.91 fill<br>19.4-20 residual soil<br>16.9-17.4 shale | 16.9-18.9 | | |
| SRT_CBH015 | Event 14 - Nov 2019 | 15/11/2019 | 4.3 | 5.92 | 22.81 | 18.51 | | | | |
| SRT_CBH015 | Event 15 - Dec 2019 | 18/12/2019 | 4.561 | 5.93 | 22.81 | 18.249 | | | | |
| SRT_CBH017 | Event 13 - Oct 2019 | 18/10/2019 | 3.22 | 4.937 | 22.82 | 19.6 | 20-22.92 fill<br>17.8-20 shale | 17.8-19.8 | | |
| SRT_CBH017 | Event 14 - Nov 2019 | 15/11/2019 | 3.291 | 4.94 | 22.82 | 19.529 | | | | |
| SRT_CBH017 | Event 15 - Dec 2019 | 18/12/2019 | 3.635 | 4.94 | 22.82 | 19.185 | | | | |
| SRT_CBH017 | Event 16 - Jan 2020 | 20/01/2020 | 4.83 | 4.94 | 22.82 | 17.99 | | | | |

mTOC: metres top of casing
AHD: Australian Height Datum
mbgl: metres below ground level

# Appendix B
## Table B4
## Summary of Groundwater Field Parameters
## October 2019 to March 2020

| Well ID | Sampling Event | Date Measured | SWL (mbTOC) | BOC (mbTOC) | Dissolved Oxygen (ppm) | Electrical Conductivity (us/cm) | pH | Ox-Red Potential (mV) | Temperature (°C) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| CSM_BH02 | Event 13 - Oct 2019 | 17/10/2019 | 20.452 | 33.97 | 0.98 | 995 | 7 | -87.5 | 20.5 | Grey brown cloudy, some sediments, no odour/sheen |
| CSM_BH02 | Event 14 - Nov 2019 | 13/11/2019 | 20.342 | 33.65 | 0.19 | 1008 | 6.88 | -94 | 20.7 | Light brown, turbid, no odour/sheen |
| CSM_BH02 | Event 15 - Dec 2019 | 17/12/2019 | 20.263 | 33.53 | 0.43 | 859 | 6.96 | -67.9 | 20.9 | Light grey, slightly turbid, no odour/sheen |
| CSM_BH02 | Event 16 - Jan 2020 | 21/01/2020 | 20.206 | 33.55 | 0.48 | 1048 | 6.85 | -77.3 | 22.2 | Clear, no odour/sheen |
| CSM_BH02 | Event 17 - Feb 2020 | 25/02/2020 | 20.315 | 33.45 | 0.4 | 993 | 6.42 | -39 | 22.1 | Clear, no odour/sheen |
| CSM_BH02 | Event 18 - Mar 2020 | 18/03/2020 | 20.14 | 33.49 | 0.79 | 874 | 6.81 | -1.2 | 20.7 | Clear to cloudy, no odour/sheen |
| CSM_BH04 | Event 13 - Oct 2019 | 17/10/2019 | 21.656 | 34.276 | 0.12 | 844 | 9.56 | -260.2 | 20.9 | Clear, no odour/sheen |
| CSM_BH04 | Event 14 - Nov 2019 | 13/11/2019 | 21.21 | 34.37 | 0.33 | 601 | 6.29 | -52.7 | 22.2 | Grey, cloudy, no odour/sheen |
| CSM_BH04 | Event 15 - Dec 2019 | 17/12/2019 | 20.86 | 34.68 | 0.27 | 450.9 | 6.14 | -26.5 | 22.2 | Clear to slightly cloudy, no odour/sheen |
| CSM_BH04 | Event 16 - Jan 2020 | 21/01/2020 | 20.79 | 34.02 | 0.82 | 470 | 5.89 | 26.6 | 21.9 | Grey cloudy, hydrocarbon odour |
| CSM_BH04 | Event 17 - Feb 2020 | 25/02/2020 | 20.856 | 34.23 | 0.49 | 511 | 6.09 | -5.7 | 22.3 | Dark grey, with sediments, hydrocarbon odour |
| CSM_BH04 | Event 18 - Mar 2020 | 18/03/2020 | 21.01 | 33.88 | 0.43 | 473.6 | 6.02 | 1.4 | 21.4 | Brown, highly turbid, no odour/sheen |
| CSM_BH06 | Event 13 - Oct 2019 | 17/10/2019 | 20.871 | 35.404 | 1.19 | 963 | 6.04 | 69.3 | 23.5 | Clear, no odour/sheen |
| CSM_BH06 | Event 14 - Nov 2019 | 13/11/2019 | 20.825 | 35.39 | 0.47 | 971 | 6.16 | 40.8 | 23 | Clear, no odour/sheen |
| CSM_BH06 | Event 15 - Dec 2019 | 17/12/2019 | 20.746 | 35.43 | 0.37 | 869 | 6.19 | 22.4 | 21.6 | Cloudy, no odour/sheen |
| CSM_BH06 | Event 17 - Feb 2020 | 25/02/2020 | 20.75 | 35.37 | 0.37 | 1009 | 6.19 | -15.9 | 24.4 | Clear, no odour/sheen |
| CSM_BH06 | Event 18 - Mar 2020 | 16/03/2020 | 20.615 | 35.53 | 0.2 | 914 | 6.26 | 6.3 | 22.3 | Light brown, cloudy, no odour/sheen |
| CSM_BH08 | Event 13 - Oct 2019 | 18/10/2019 | 13.83 | 35.03 | 0.21 | 535 | 6.4 | -44.1 | 20.8 | Clear/cloudy, no odour/sheen |
| CSM_BH08 | Event 14 - Nov 2019 | 13/11/2019 | 13.755 | 33.23 | 0.17 | 520 | 6.55 | -28.4 | 20.9 | Clear, slight brown, no odour/sheen |
| CSM_BH08 | Event 15 - Dec 2019 | 16/12/2019 | 13.69 | 35 | 0.29 | 470.2 | 6.41 | -44.9 | 21.3 | Clear, no odour/sheen |
| CSM_BH08 | Event 16 - Jan 2020 | 21/01/2020 | 13.66 | 35.01 | 0.3 | 534 | 6.32 | -48.6 | 21.7 | Clear, slight red, no odour/sheen |
| CSM_BH08 | Event 17 - Feb 2020 | 25/02/2020 | 13.735 | 34.98 | 0.99 | 545 | 6.35 | -39.1 | 21.4 | Clear, no odour/sheen |
| CSM_BH08 | Event 18 - Mar 2020 | 18/03/2020 | 13.63 | 35.01 | 0.14 | 513 | 6.23 | -34.1 | 21.2 | Clear, no odour/sheen |
| CSM_BH09S | Event 13 - Oct 2019 | 16/10/2019 | 4.051 | 6.593 | 1.67 | 596 | 5.56 | 142.3 | 19.5 | Clear to slightly cloudy, no odour/sheen |
| CSM_BH09S | Event 14 - Nov 2019 | 14/11/2019 | 4.215 | 6.59 | 0.64 | 574 | 5.64 | 100.4 | 19.3 | Clear/cloudy, no odour/sheen |
| CSM_BH09S | Event 15 - Dec 2019 | 16/12/2019 | 4.315 | 6.6 | 0.34 | 523 | 5.91 | 27 | 20.1 | Clear, hydrocarbon odour and sheen |
| CSM_BH09S | Event 16 - Jan 2020 | 22/01/2020 | 4.274 | 6.595 | 0.9 | 563 | 5.79 | 29.1 | 20.1 | Clear, hydrocarbon odour, no sheen |
| CSM_BH09S | Event 17 - Feb 2020 | 24/02/2020 | 4.11 | 6.6 | 1.04 | 582 | 5.94 | 6.8 | 21 | Cloudy, light grey, no odour/sheen |
| CSM_BH09S | Event 18 - Mar 2020 | 17/03/2020 | 4.182 | 6.59 | 0.25 | 562 | 6.1 | -104.7 | 20 | Clear/cloudy, no odour/sheen |
| CSM_BH10S | Event 13 - Oct 2019 | 16/10/2019 | 4.546 | 9.828 | 0.57 | 234.1 | 5.27 | 193.9 | 20.6 | Clear, no odour/sheen |
| CSM_BH10S | Event 14 - Nov 2019 | 14/11/2019 | 4.795 | 9.82 | 0.61 | 229.5 | 5.33 | 220.4 | 20.8 | Clear, no odour/sheen |
| CSM_BH10S | Event 15 - Dec 2019 | 17/12/2019 | 5.095 | 10 | 0.21 | 267.2 | 5.22 | 229.5 | 22 | Clear, no odour/sheen |
| CSM_BH10S | Event 16 - Jan 2020 | 20/01/2020 | 5.173 | 9.85 | 0.5 | 227.5 | 5.32 | 214.4 | 21.8 | Light brown, cloudy, no odour/sheen |
| CSM_BH10S | Event 17 - Feb 2020 | 25/02/2020 | 4.204 | 10.04 | 0.4 | 253 | 5.33 | 201.5 | 22.6 | Light brown, cloudy, no odour/sheen |
| CSM_BH10S | Event 18 - Mar 2020 | 17/03/2020 | 4.05 | 10 | 0.26 | 244.5 | 5.7 | -166.8 | 21.6 | Clear, no odour/sheen |
| GASW_BH10 | Event 13 - Oct 2019 | 17/10/2019 | 19.408 | 25.008 | 0.27 | 1218 | 6.61 | -115.6 | 20.6 | Clear, no odour/sheen |
| GASW_BH10 | Event 14 - Nov 2019 | 13/11/2019 | 19.396 | 24.79 | 0.31 | 1285 | 6.39 | -124.1 | 21 | Clear, no odour/sheen |
| GASW_BH10 | Event 15 - Dec 2019 | 16/12/2019 | 19.33 | 25.01 | 0.3 | 1311 | 6.29 | -110.1 | 21.1 | Clear/cloudy, no odour/sheen |
| GASW_BH10 | Event 16 - Jan 2020 | 21/01/2020 | 19.28 | 24.98 | 0.93 | 1520 | 6.42 | -114.9 | 21.8 | Clear, slight red, unknown odour, no sheen |
| GASW_BH10 | Event 17 - Feb 2020 | 24/02/2020 | 19.195 | 25.66 | 0.49 | 1464 | 6.39 | -157.2 | 21.6 | Cloudy, organic odour, no sheen |
| GASW_BH10 | Event 18 - Mar 2020 | 18/03/2020 | 19.16 | 25 | 1.06 | 1404 | 6.5 | -140.3 | 21.5 | Clear, no odour/sheen |
| GASW_BH11 | Event 13 - Oct 2019 | 16/10/2019 | 4.38 | 8.05 | 3.06 | 285.3 | 5.46 | 166.1 | 20.6 | Cloudy, grey, hydrocarbon odour, no sheen |
| GASW_BH11 | Event 14 - Nov 2019 | 14/11/2019 | 4.57 | 8.05 | 0.61 | 297.3 | 5.52 | 135.7 | 21.4 | Cloudy, grey, hydrocarbon odour, no sheen |
| GASW_BH11 | Event 15 - Dec 2019 | 16/12/2019 | 4.636 | 8.05 | 0.31 | 282.7 | 5.64 | 58.4 | 21 | Clear, no odour/sheen |
| GASW_BH11 | Event 16 - Jan 2020 | 22/01/2020 | 4.742 | 8.05 | 0.61 | 279.3 | 5.33 | 144 | 21.8 | Light brown, cloudy, no odour/sheen |
| GASW_BH11 | Event 17 - Feb 2020 | 24/02/2020 | 4.57 | 8.05 | 0.94 | 304.5 | 5.77 | 303.8 | 22 | Clear, no odour/sheen |
| GASW_BH11 | Event 18 - Mar 2020 | 17/03/2020 | 5.06 | 8.04 | 0.21 | 293.6 | 6 | -287.3 | 21.5 | Clear, no odour/sheen |
| GASW_BH23 | Event 13 - Oct 2019 | 16/10/2019 | 2.685 | 3.915 | 0.07 | 867 | 7.23 | -162 | 19.6 | Clear, no odour/sheen |
| GASW_BH23 | Event 14 - Nov 2019 | 14/11/2019 | 2.698 | 3.92 | 0.04 | 949 | 7.33 | -181.9 | 21.5 | Light brown, cloudy, no odour/sheen |
| GASW_BH23 | Event 15 - Dec 2019 | 16/12/2019 | 2.66 | 3.92 | 0.98 | 442.3 | 10.65 | -184.1 | 22 | Light brown, cloudy, no odour/sheen |

# Appendix B
## Table B4
## Summary of Groundwater Field Parameters
## October 2019 to March 2020

| Well ID | Sampling Event | Date Measured | SWL (mbTOC) | BOC (mbTOC) | Dissolved Oxygen (ppm) | Electrical Conductivity (us/cm) | pH | Ox-Red Potential (mV) | Temperature (°C) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| GASW_BH23 | Event 16 - Jan 2020 | 22/01/2020 | 2.835 | 3.91 | 0.11 | 889 | 7.21 | -145.9 | 24 | Clear, no odour/sheen |
| GASW_BH23 | Event 17 - Feb 2020 | 24/02/2020 | 3.064 | 3.915 | 0.32 | 809 | 7.19 | -219.6 | 23.9 | Slight red, cloudy, no odour/sheen |
| GASW_BH23 | Event 18 - Mar 2020 | 17/03/2020 | 2.85 | 3.91 | 0.1 | 563 | 7.1 | -331 | 23.6 | Clear, no odour/sheen |
| GASW_BH25a | Event 13 - Oct 2019 | 16/10/2019 | 1.342 | 2.946 | 0.03 | 459.9 | 8.74 | -272.8 | 19.2 | Clear, no odour/sheen |
| GASW_BH25a | Event 14 - Nov 2019 | 14/11/2019 | 1.36 | 2.95 | 0.02 | 551 | 8.5 | -278 | 22 | Clear, no odour/sheen |
| GASW_BH25a | Event 15 - Dec 2019 | 16/12/2019 | 1.333 | 2.95 | 0.06 | 568 | 9.19 | -269.3 | 22 | Clear, no odour/sheen |
| GASW_BH25a | Event 16 - Jan 2020 | 22/01/2020 | 1.617 | 2.95 | 0.12 | 592 | 7.83 | -207.3 | 24 | Clear, no odour/sheen |
| GASW_BH25a | Event 17 - Feb 2020 | 24/02/2020 | 1.825 | 2.95 | 0.14 | 519 | 7.62 | -208.7 | 23.7 | Clear, slight hydrocarbon odour |
| GASW_BH25a | Event 18 - Mar 2020 | 17/03/2020 | 1.6 | 2.935 | 0.52 | 3.67 | 7.3 | -206.4 | 23 | Clear/cloudy, slight organic odour |
| GASW_BH7 | Event 13 - Oct 2019 | 16/10/2019 | 3.903 | 6.197 | 0.33 | 427.6 | 4.11 | 304.1 | 19.3 | Red brown, cloudy, slight hydrocarbon odour |
| GASW_BH7 | Event 14 - Nov 2019 | 14/11/2019 | 3.97 | 6.17 | 0.58 | 432.4 | 4.36 | 274.2 | 21.1 | Grey, cloudy, strong hydrocarbon odour, slight sheen |
| GASW_BH7 | Event 15 - Dec 2019 | 16/12/2019 | 4.01 | 6.17 | 0.49 | 388.5 | 4.23 | 276.2 | 21.2 | Grey, cloudy, hydrocarbon odour, slight sheen |
| GASW_BH7 | Event 16 - Jan 2020 | 22/01/2020 | 4.455 | 6.17 | 0.63 | 442.8 | 3.98 | 343.9 | 22.5 | Light brown, cloudy, no odour/sheen |
| GASW_BH7 | Event 17 - Feb 2020 | 24/02/2020 | 4.813 | 6.21 | 0.46 | 422 | 4.16 | 261 | 22.8 | Light brown, cloudy, no odour/sheen |
| GASW_BH7 | Event 18 - Mar 2020 | 17/03/2020 | 5.36 | 6.16 | 1.84 | 381.6 | 3.9 | 51.9 | 22.3 | Light brown, cloudy, no odour/sheen |
| SRT_BH047 | Event 13 - Oct 2019 | 18/10/2019 | 4.333 | 6.94 | 1.45 | 415 | 7.73 | 96.5 | 19.5 | Clear, no odour/sheen |
| SRT_BH047 | Event 14 - Nov 2019 | 15/11/2019 | 5.022 | 6.95 | 1.2 | 424.7 | 7.76 | 127.4 | 20.3 | Clear, with red brown sediment, no odour/sheen |
| SRT_BH047 | Event 15 - Dec 2019 | 18/12/2019 | 5.65 | 6.97 | 1.01 | 385.7 | 7.57 | 102.3 | 20.5 | Clear/cloudy, no odour/sheen |
| SRT_BH047 | Event 16 - Jan 2020 | 20/01/2020 | 4.39 | 7.03 | 2.11 | 391.3 | 7.76 | 52.1 | 21 | Clear, slight hydrocarbon odour, no sheen |
| SRT_BH047 | Event 17 - Feb 2020 | 26/02/2020 | 4.08 | 6.96 | 4.83 | 311.4 | 6.29 | 145.5 | 21.9 | Clear, organic odour, no sheen |
| SRT_BH047 | Event 18 - Mar 2020 | 16/03/2020 | 3.58 | 6.935 | 3.55 | 381.9 | 7.34 | 107.7 | 20.7 | Brown, cloudy, slight hydrocarbon odour, no sheen |
| SRT_BH050 | Event 18 - Mar 2020 | 16/03/2020 | 2.335 | 2.77 | - | - | 5.6 | - | - | Grey, cloudy, hydrocarbon odour, no sheen |
| SRT_BH052 | Event 13 - Oct 2019 | 18/10/2019 | 6.162 | 7.92 | 5.02 | 378 | 7.52 | 106.7 | 19.6 | Light grey, cloudy, hydrocarbon odour, no sheen |
| SRT_BH052 | Event 14 - Nov 2019 | 15/11/2019 | 6.265 | 7.93 | 3.72 | 369.2 | 7.58 | 138.2 | 20.1 | Clear, no odour/sheen |
| SRT_BH052 | Event 15 - Dec 2019 | 18/12/2019 | 6.37 | 7.91 | 3.57 | 333 | 6.91 | 130.2 | 20.4 | Clear, no odour/sheen |
| SRT_BH052 | Event 16 - Jan 2020 | 20/01/2020 | 6.205 | 7.92 | 3.58 | 377.4 | 6.74 | 107.7 | 21 | Clear to slightly cloudy, no odour/sheen |
| SRT_BH052 | Event 17 - Feb 2020 | 26/02/2020 | 5.71 | 7.92 | 5.63 | 264.2 | 5.92 | 169 | 21.6 | Light brown, turbid, no odour/sheen |
| SRT_BH052 | Event 18 - Mar 2020 | 16/03/2020 | 5.78 | 7.915 | 6.01 | 258.5 | 6.19 | 125.3 | 20.6 | Brown, turbid, no odour/sheen |
| SRT_BH059 | Event 13 - Oct 2019 | 18/10/2019 | 3.082 | 6 | 3.93 | 347.8 | 7.08 | 120 | 19.3 | Grey, cloudy, no odour/sheen |
| SRT_BH059 | Event 14 - Nov 2019 | 15/11/2019 | 4.142 | 6 | 4.41 | 362.8 | 9.93 | 160.6 | 20.5 | Clear, no odour/sheen |
| SRT_BH059 | Event 15 - Dec 2019 | 18/12/2019 | 4.89 | 6.01 | 3.35 | 345.4 | 6.89 | 87.4 | 20.6 | Brown, cloudy, no odour/sheen |
| SRT_BH059 | Event 16 - Jan 2020 | 20/01/2020 | 2.98 | 6 | 5.38 | 392.6 | 7.14 | 85.6 | 21.4 | Brown, cloudy, no odour/sheen |
| SRT_BH059 | Event 17 - Feb 2020 | 26/02/2020 | 3.36 | 6 | 2.03 | 380.7 | 6.91 | 99.1 | 22 | Brown, cloudy, no odour/sheen |
| SRT_BH059 | Event 18 - Mar 2020 | 16/03/2020 | 2.99 | 6 | 2.87 | 320.4 | 6.98 | 110.8 | 21.5 | Grey, cloudy, no odour/sheen |
| SRT_BH060 | Event 18 - Mar 2020 | 16/03/2020 | 3.84 | 4.29 | - | - | 7.4 | - | - | Brown, cloudy, no odour/sheen |
| SRT_CBH015 | Event 13 - Oct 2019 | 18/10/2019 | 4.18 | 5.91 | 0.75 | 185.8 | 5.2 | 219.9 | 20.3 | Dark grey, cloudy, hydrocarbon odour, no sheen |
| SRT_CBH015 | Event 14 - Nov 2019 | 15/11/2019 | 4.3 | 5.92 | 1.03 | 188.2 | 5.17 | 272 | 20.8 | Grey, cloudy, hydrocarbon odour, no sheen |
| SRT_CBH015 | Event 15 - Dec 2019 | 18/12/2019 | 4.561 | 5.93 | 0.76 | 170.8 | 5.28 | 238.1 | 20.6 | Clear to slightly cloudy, no odour/sheen |
| SRT_CBH017 | Event 13 - Oct 2019 | 18/10/2019 | 3.22 | 4.937 | 1.1 | 219.4 | 6.03 | 159 | 20.2 | Grab sample taken due to limited water |
| SRT_CBH017 | Event 14 - Nov 2019 | 15/11/2019 | 3.291 | 4.94 | 0.69 | 256.1 | 6.2 | 179.5 | 20.7 | Clear to slightly cloudy, no odour/sheen |
| SRT_CBH017 | Event 15 - Dec 2019 | 18/12/2019 | 3.635 | 4.94 | 0.72 | 226.5 | 6.02 | 123.5 | 21.5 | Clear, no odour/sheen |
| SRT_CBH017 | Event 16 - Jan 2020 | 20/01/2020 | 4.83 | 4.94 | 0.41 | 311.9 | 6.28 | 8.1 | 21.8 | Grab sample taken due to limited water |

# Appendix B
## Table B5
## Groundwater Aggressivity Comparison Table - Steel Piles

| Well ID | Date Measured | pH (field) | pH (lab) | chloride (mg/L) | soil condition A | soil condition B | aquifer |
|---|---|---|---|---|---|---|---|
| | | | | | high permerability soil (sand, gravel) that are in groundwater | low permeability soils (silt and clay) or all soils above groundwater | Table 6.5.2 C in AS2159 |
| CSM_BH02 | 17/10/2019 | 7 | 7.9 | 500 | non-aggressive | non-aggressive | deep |
| CSM_BH02 | 13/11/2019 | 6.88 | 7.9 | 520 | non-aggressive | non-aggressive | deep |
| CSM_BH02 | 17/12/2019 | 6.96 | 8.1 | 150 | non-aggressive | non-aggressive | deep |
| CSM_BH02 | 21/01/2020 | 6.85 | 4.8 | 180 | mild | non-aggressive | deep |
| CSM_BH02 | 25/02/2020 | 6.42 | 8.3 | 190 | non-aggressive | non-aggressive | deep |
| CSM_BH02 | 18/03/2020 | 6.81 | 7 | 150 | non-aggressive | non-aggressive | deep |
| CSM_BH04 | 17/10/2019 | 9.56 | 9.6 | 110 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH04 | 13/11/2019 | 6.29 | 8 | 71 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH04 | 17/12/2019 | 6.14 | 7 | 89 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH04 | 21/01/2020 | 5.89 | 6.3 | 95 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH04 | 25/02/2020 | 6.09 | 7.3 | 140 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH04 | 18/03/2020 | 6.02 | 6.3 | 90 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH06 | 17/10/2019 | 6.04 | 7.2 | 170 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH06 | 13/11/2019 | 6.16 | 7.4 | 210 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH06 | 17/12/2019 | 6.19 | 7 | 570 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH06 | 25/02/2020 | 6.19 | 7.7 | 590 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH06 | 16/03/2020 | 6.26 | 6.3 | 220 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH08 | 18/10/2019 | 6.4 | 7.5 | 120 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH08 | 13/11/2019 | 6.55 | 7.5 | 100 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH08 | 16/12/2019 | 6.41 | 7.1 | 110 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH08 | 21/01/2020 | 6.32 | 6.4 | 160 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH08 | 25/02/2020 | 6.35 | 6.7 | 93 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH08 | 18/03/2020 | 6.23 | 6.4 | 92 | non-aggressive | non-aggressive | off-site deep |
| CSM_BH09S | 16/10/2019 | 5.56 | 6.7 | 100 | non-aggressive | non-aggressive | shallow |
| CSM_BH09S | 14/11/2019 | 5.64 | 7 | 65 | non-aggressive | non-aggressive | shallow |
| CSM_BH09S | 16/12/2019 | 5.91 | 6.7 | 48 | non-aggressive | non-aggressive | shallow |
| CSM_BH09S | 22/01/2020 | 5.79 | 6.1 | 46 | non-aggressive | non-aggressive | shallow |
| CSM_BH09S | 24/02/2020 | 5.94 | 7.1 | 52 | non-aggressive | non-aggressive | shallow |
| CSM_BH09S | 17/03/2020 | 6.1 | 6.1 | 46 | non-aggressive | non-aggressive | shallow |
| CSM_BH10S | 16/10/2019 | 5.27 | 6.5 | 70 | non-aggressive | non-aggressive | off-site shallow |
| CSM_BH10S | 14/11/2019 | 5.33 | 6.2 | 45 | non-aggressive | non-aggressive | off-site shallow |
| CSM_BH10S | 17/12/2019 | 5.22 | 6.1 | 16 | non-aggressive | non-aggressive | off-site shallow |
| CSM_BH10S | 20/01/2020 | 5.32 | 6 | 16 | non-aggressive | non-aggressive | off-site shallow |
| CSM_BH10S | 25/02/2020 | 5.33 | 6.7 | 24 | non-aggressive | non-aggressive | off-site shallow |
| CSM_BH10S | 17/03/2020 | 5.7 | 5.7 | 23 | non-aggressive | non-aggressive | off-site shallow |
| GASW_BH10 | 17/10/2019 | 6.61 | 7.4 | 170 | non-aggressive | non-aggressive | deep |
| GASW_BH10 | 13/11/2019 | 6.39 | 7.1 | 730 | non-aggressive | non-aggressive | deep |
| GASW_BH10 | 16/12/2019 | 6.29 | 6.7 | 110 | non-aggressive | non-aggressive | deep |
| GASW_BH10 | 21/01/2020 | 6.42 | 6.8 | 910 | non-aggressive | non-aggressive | deep |
| GASW_BH10 | 24/02/2020 | 6.39 | 7.8 | 200 | non-aggressive | non-aggressive | deep |
| GASW_BH10 | 18/03/2020 | 6.5 | 6.5 | 190 | non-aggressive | non-aggressive | deep |
| GASW_BH11 | 16/10/2019 | 5.46 | 6.5 | 74 | non-aggressive | non-aggressive | shallow |
| GASW_BH11 | 14/11/2019 | 5.52 | 6.5 | 97 | non-aggressive | non-aggressive | shallow |
| GASW_BH11 | 16/12/2019 | 5.64 | 6.2 | 68 | non-aggressive | non-aggressive | shallow |
| GASW_BH11 | 22/01/2020 | 5.33 | 6.1 | 81 | non-aggressive | non-aggressive | shallow |
| GASW_BH11 | 24/02/2020 | 5.77 | 6.8 | 44 | non-aggressive | non-aggressive | shallow |
| GASW_BH11 | 17/03/2020 | 6 | 6 | 44 | non-aggressive | non-aggressive | shallow |
| GASW_BH23 | 16/10/2019 | 7.23 | 7.7 | 45 | non-aggressive | non-aggressive | shallow |
| GASW_BH23 | 14/11/2019 | 7.33 | 8.1 | 33 | non-aggressive | non-aggressive | shallow |
| GASW_BH23 | 16/12/2019 | 10.65 | 11 | 35 | non-aggressive | non-aggressive | shallow |
| GASW_BH23 | 22/01/2020 | 7.21 | 8.1 | 21 | non-aggressive | non-aggressive | shallow |
| GASW_BH23 | 24/02/2020 | 7.19 | 8.1 | 70 | non-aggressive | non-aggressive | shallow |
| GASW_BH23 | 17/03/2020 | 7.1 | 7.1 | 13 | non-aggressive | non-aggressive | shallow |
| GASW_BH25a | 16/10/2019 | 8.74 | 8.1 | 48 | non-aggressive | non-aggressive | shallow |
| GASW_BH25a | 14/11/2019 | 8.5 | 8.3 | 85 | non-aggressive | non-aggressive | shallow |
| GASW_BH25a | 16/12/2019 | 9.19 | 8.2 | 25 | non-aggressive | non-aggressive | shallow |
| GASW_BH25a | 22/01/2020 | 7.83 | 6.6 | 15 | non-aggressive | non-aggressive | shallow |
| GASW_BH25a | 24/02/2020 | 7.62 | 7.2 | 63 | non-aggressive | non-aggressive | shallow |
| GASW_BH25a | 17/03/2020 | 7.3 | 7.3 | 11 | non-aggressive | non-aggressive | shallow |
| GASW_BH7 | 16/10/2019 | 4.11 | 3.6 | 49 | moderate | mild | shallow |
| GASW_BH7 | 14/11/2019 | 4.36 | 4 | 28 | moderate | mild | shallow |
| GASW_BH7 | 16/12/2019 | 4.23 | 3.5 | 68 | moderate | mild | shallow |
| GASW_BH7 | 22/01/2020 | 3.98 | 3.7 | 100 | moderate | mild | shallow |
| GASW_BH7 | 24/02/2020 | 4.16 | 3.8 | 40 | moderate | mild | shallow |
| GASW_BH7 | 17/03/2020 | 3.9 | 3.9 | 25 | moderate | mild | shallow |
| SRT_BH047 | 18/10/2019 | 7.73 | 7.8 | 34 | non-aggressive | non-aggressive | shallow |
| SRT_BH047 | 15/11/2019 | 7.76 | 8.3 | 52 | non-aggressive | non-aggressive | shallow |
| SRT_BH047 | 18/12/2019 | 7.57 | 8.3 | 46 | non-aggressive | non-aggressive | shallow |
| SRT_BH047 | 20/01/2020 | 7.76 | 7.7 | 60 | non-aggressive | non-aggressive | shallow |
| SRT_BH047 | 26/02/2020 | 6.29 | 7.7 | 83 | non-aggressive | non-aggressive | shallow |
| SRT_BH047 | 16/03/2020 | 7.34 | 7 | 25 | non-aggressive | non-aggressive | shallow |
| SRT_BH050 | 16/03/2020 | 5.6 | 5.6 | 10 | non-aggressive | non-aggressive | shallow |
| SRT_BH052 | 18/10/2019 | 7.52 | 7.6 | 39 | non-aggressive | non-aggressive | shallow |
| SRT_BH052 | 15/11/2019 | 7.58 | 7.6 | 49 | non-aggressive | non-aggressive | shallow |
| SRT_BH052 | 18/12/2019 | 6.91 | 8.3 | 83 | non-aggressive | non-aggressive | shallow |

# Appendix B
## Table B5
## Groundwater Aggressivity Comparison Table - Steel Piles

| Well ID | Date Measured | pH (field) | pH (lab) | chloride (mg/L) | soil condition A | soil condition B | aquifer |
|---|---|---|---|---|---|---|---|
| SRT_BH052 | 20/01/2020 | 6.74 | 6.9 | 78 | non-aggressive | non-aggressive | shallow |
| SRT_BH052 | 26/02/2020 | 5.92 | 7.5 | 96 | non-aggressive | non-aggressive | shallow |
| SRT_BH052 | 16/03/2020 | 6.19 | 6.2 | 35 | non-aggressive | non-aggressive | shallow |
| SRT_BH059 | 18/10/2019 | 7.08 | 8.1 | 22 | non-aggressive | non-aggressive | shallow |
| SRT_BH059 | 15/11/2019 | 9.93 | 8 | 43 | non-aggressive | non-aggressive | shallow |
| SRT_BH059 | 18/12/2019 | 6.89 | 7.9 | 12 | non-aggressive | non-aggressive | shallow |
| SRT_BH059 | 20/01/2020 | 7.14 | 6.4 | 59 | non-aggressive | non-aggressive | shallow |
| SRT_BH059 | 26/02/2020 | 6.91 | 8.2 | 22 | non-aggressive | non-aggressive | shallow |
| SRT_BH059 | 16/03/2020 | 6.98 | 7 | 9.5 | non-aggressive | non-aggressive | shallow |
| SRT_BH060 | 16/03/2020 | 7.4 | 7.4 | 31 | non-aggressive | non-aggressive | shallow |
| SRT_CBH015 | 18/10/2019 | 5.2 | 6.3 | 15 | non-aggressive | non-aggressive | shallow |
| SRT_CBH015 | 15/11/2019 | 5.17 | 6.3 | 64 | non-aggressive | non-aggressive | shallow |
| SRT_CBH015 | 18/12/2019 | 5.28 | 6.1 | 14 | non-aggressive | non-aggressive | shallow |
| SRT_CBH017 | 18/10/2019 | 6.03 | 7.1 | 15 | non-aggressive | non-aggressive | shallow |
| SRT_CBH017 | 15/11/2019 | 6.2 | 7.2 | 50 | non-aggressive | non-aggressive | shallow |
| SRT_CBH017 | 18/12/2019 | 6.02 | 7 | 13 | non-aggressive | non-aggressive | shallow |
| SRT_CBH017 | 20/01/2020 | 6.28 | 6.2 | 85 | non-aggressive | non-aggressive | shallow |

# Appendix B
## Table B6
## Groundwater Aggressivity Comparison Table - Concrete Piles

| Well ID | Date Measured | pH (field) | pH (lab) | Sulfate (mg/L) | chloride (mg/L) | soil condition A | soil condition B | aquifer |
|---|---|---|---|---|---|---|---|---|
| | | | | | | high permerability soil (sand, gravel) that are in groundwater | low permeability soils (silt and clay) or all soils above groundwater | Table 6.4.2 C in AS2159 |
| CSM_BH02 | 17/10/2019 | 7 | 7.9 | 28 | 500 | mild | non-aggressive | deep |
| CSM_BH02 | 13/11/2019 | 6.88 | 7.9 | 29 | 520 | mild | non-aggressive | deep |
| CSM_BH02 | 17/12/2019 | 6.96 | 8.1 | 34 | 150 | mild | non-aggressive | deep |
| CSM_BH02 | 21/01/2020 | 6.85 | 4.8 | 28 | 180 | moderate | mild | deep |
| CSM_BH02 | 25/02/2020 | 6.42 | 8.3 | 34 | 190 | mild | non-aggressive | deep |
| CSM_BH02 | 18/03/2020 | 6.81 | 7 | 32 | 150 | mild | non-aggressive | deep |
| CSM_BH04 | 17/10/2019 | 9.56 | 9.6 | 34 | 110 | mild | non-aggressive | off-site deep |
| CSM_BH04 | 13/11/2019 | 6.29 | 8 | 39 | 71 | mild | non-aggressive | off-site deep |
| CSM_BH04 | 17/12/2019 | 6.14 | 7 | 37 | 89 | mild | non-aggressive | off-site deep |
| CSM_BH04 | 21/01/2020 | 5.89 | 6.3 | 44 | 95 | mild | non-aggressive | off-site deep |
| CSM_BH04 | 25/02/2020 | 6.09 | 7.3 | 38 | 140 | mild | non-aggressive | off-site deep |
| CSM_BH04 | 18/03/2020 | 6.02 | 6.3 | 38 | 90 | mild | non-aggressive | off-site deep |
| CSM_BH06 | 17/10/2019 | 6.04 | 7.2 | 21 | 170 | mild | non-aggressive | off-site deep |
| CSM_BH06 | 13/11/2019 | 6.16 | 7.4 | 26 | 210 | mild | non-aggressive | off-site deep |
| CSM_BH06 | 17/12/2019 | 6.19 | 7 | 26 | 570 | mild | non-aggressive | off-site deep |
| CSM_BH06 | 25/02/2020 | 6.19 | 7.7 | 31 | 590 | mild | non-aggressive | off-site deep |
| CSM_BH06 | 16/03/2020 | 6.26 | 6.3 | 24 | 220 | mild | non-aggressive | off-site deep |
| CSM_BH08 | 18/10/2019 | 6.4 | 7.5 | 43 | 120 | mild | non-aggressive | off-site deep |
| CSM_BH08 | 13/11/2019 | 6.55 | 7.5 | 43 | 100 | mild | non-aggressive | off-site deep |
| CSM_BH08 | 16/12/2019 | 6.41 | 7.1 | 48 | 110 | mild | non-aggressive | off-site deep |
| CSM_BH08 | 21/01/2020 | 6.32 | 6.4 | 47 | 160 | mild | non-aggressive | off-site deep |
| CSM_BH08 | 25/02/2020 | 6.35 | 6.7 | 45 | 93 | mild | non-aggressive | off-site deep |
| CSM_BH08 | 18/03/2020 | 6.23 | 6.4 | 45 | 92 | mild | non-aggressive | off-site deep |
| CSM_BH09S | 16/10/2019 | 5.56 | 6.7 | 200 | 100 | mild | non-aggressive | shallow |
| CSM_BH09S | 14/11/2019 | 5.64 | 7 | 180 | 65 | mild | non-aggressive | shallow |
| CSM_BH09S | 16/12/2019 | 5.91 | 6.7 | 150 | 48 | mild | non-aggressive | shallow |
| CSM_BH09S | 22/01/2020 | 5.79 | 6.1 | 160 | 46 | mild | non-aggressive | shallow |
| CSM_BH09S | 24/02/2020 | 5.94 | 7.1 | 150 | 52 | mild | non-aggressive | shallow |
| CSM_BH09S | 17/03/2020 | 6.1 | 6.1 | 120 | 46 | mild | non-aggressive | shallow |
| CSM_BH10S | 16/10/2019 | 5.27 | 6.5 | 55 | 70 | moderate | mild | off-site shallow |
| CSM_BH10S | 14/11/2019 | 5.33 | 6.2 | 56 | 45 | moderate | mild | off-site shallow |
| CSM_BH10S | 17/12/2019 | 5.22 | 6.1 | 54 | 16 | moderate | mild | off-site shallow |
| CSM_BH10S | 20/01/2020 | 5.32 | 6 | 55 | 16 | moderate | mild | off-site shallow |
| CSM_BH10S | 25/02/2020 | 5.33 | 6.7 | 55 | 24 | moderate | mild | off-site shallow |
| CSM_BH10S | 17/03/2020 | 5.7 | 5.7 | 58 | 23 | mild | non-aggressive | off-site shallow |
| GASW_BH10 | 17/10/2019 | 6.61 | 7.4 | <5 | 170 | mild | non-aggressive | deep |
| GASW_BH10 | 13/11/2019 | 6.39 | 7.1 | <5 | 730 | mild | non-aggressive | deep |
| GASW_BH10 | 16/12/2019 | 6.29 | 6.7 | <5 | 110 | mild | non-aggressive | deep |
| GASW_BH10 | 21/01/2020 | 6.42 | 6.8 | <5 | 910 | mild | non-aggressive | deep |
| GASW_BH10 | 24/02/2020 | 6.39 | 7.8 | <5 | 200 | mild | non-aggressive | deep |
| GASW_BH10 | 18/03/2020 | 6.5 | 6.5 | <2 | 190 | mild | non-aggressive | deep |
| GASW_BH11 | 16/10/2019 | 5.46 | 6.5 | 50 | 74 | moderate | mild | shallow |
| GASW_BH11 | 14/11/2019 | 5.52 | 6.5 | 51 | 97 | mild | non-aggressive | shallow |
| GASW_BH11 | 16/12/2019 | 5.64 | 6.2 | 54 | 68 | mild | non-aggressive | shallow |
| GASW_BH11 | 22/01/2020 | 5.33 | 6.1 | 52 | 81 | moderate | mild | shallow |
| GASW_BH11 | 24/02/2020 | 5.77 | 6.8 | 48 | 44 | mild | non-aggressive | shallow |
| GASW_BH11 | 17/03/2020 | 6 | 6 | 44 | 44 | mild | non-aggressive | shallow |
| GASW_BH23 | 16/10/2019 | 7.23 | 7.7 | 330 | 45 | mild | non-aggressive | shallow |
| GASW_BH23 | 14/11/2019 | 7.33 | 8.1 | 320 | 33 | mild | non-aggressive | shallow |
| GASW_BH23 | 16/12/2019 | 10.65 | 11 | 97 | 35 | mild | non-aggressive | shallow |
| GASW_BH23 | 22/01/2020 | 7.21 | 8.1 | 270 | 21 | mild | non-aggressive | shallow |
| GASW_BH23 | 24/02/2020 | 7.19 | 8.1 | 120 | 70 | mild | non-aggressive | shallow |
| GASW_BH23 | 17/03/2020 | 7.1 | 7.1 | 120 | 13 | mild | non-aggressive | shallow |
| GASW_BH25a | 16/10/2019 | 8.74 | 8.1 | 140 | 48 | mild | non-aggressive | shallow |
| GASW_BH25a | 14/11/2019 | 8.5 | 8.3 | 180 | 85 | mild | non-aggressive | shallow |
| GASW_BH25a | 16/12/2019 | 9.19 | 8.2 | 230 | 25 | mild | non-aggressive | shallow |
| GASW_BH25a | 22/01/2020 | 7.83 | 6.6 | 130 | 15 | mild | non-aggressive | shallow |
| GASW_BH25a | 24/02/2020 | 7.62 | 7.2 | 97 | 63 | mild | non-aggressive | shallow |
| GASW_BH25a | 17/03/2020 | 7.3 | 7.3 | 47 | 11 | mild | non-aggressive | shallow |
| GASW_BH7 | 16/10/2019 | 4.11 | 3.6 | 160 | 49 | very severe | severe | shallow |
| GASW_BH7 | 14/11/2019 | 4.36 | 4 | 150 | 28 | severe | moderate | shallow |
| GASW_BH7 | 16/12/2019 | 4.23 | 3.5 | 150 | 68 | very severe | severe | shallow |
| GASW_BH7 | 22/01/2020 | 3.98 | 3.7 | 150 | 100 | very severe | severe | shallow |
| GASW_BH7 | 24/02/2020 | 4.16 | 3.8 | 140 | 40 | very severe | severe | shallow |
| GASW_BH7 | 17/03/2020 | 3.9 | 3.9 | 110 | 25 | very severe | severe | shallow |
| SRT_BH047 | 18/10/2019 | 7.73 | 7.8 | 11 | 34 | mild | non-aggressive | shallow |
| SRT_BH047 | 15/11/2019 | 7.76 | 8.3 | 9.5 | 52 | mild | non-aggressive | shallow |
| SRT_BH047 | 18/12/2019 | 7.57 | 8.3 | 12 | 46 | mild | non-aggressive | shallow |
| SRT_BH047 | 20/01/2020 | 7.76 | 7.7 | 11 | 60 | mild | non-aggressive | shallow |
| SRT_BH047 | 26/02/2020 | 6.29 | 7.7 | 27 | 83 | mild | non-aggressive | shallow |
| SRT_BH047 | 16/03/2020 | 7.34 | 7 | 15 | 25 | mild | non-aggressive | shallow |
| SRT_BH050 | 16/03/2020 | 5.6 | 5.6 | 48 | 10 | mild | non-aggressive | shallow |
| SRT_BH052 | 18/10/2019 | 7.52 | 7.6 | 26 | 39 | mild | non-aggressive | shallow |
| SRT_BH052 | 15/11/2019 | 7.58 | 7.6 | 31 | 49 | mild | non-aggressive | shallow |
| SRT_BH052 | 18/12/2019 | 6.91 | 8.3 | 36 | 83 | mild | non-aggressive | shallow |

# Appendix B
## Table B6
## Groundwater Aggressivity Comparison Table - Concrete Piles

| Well ID | Date Measured | pH (field) | pH (lab) | Sulfate (mg/L) | chloride (mg/L) | soil condition A | soil condition B | aquifer |
|---|---|---|---|---|---|---|---|---|
| SRT_BH052 | 20/01/2020 | 6.74 | 6.9 | 35 | 78 | mild | non-aggressive | shallow |
| SRT_BH052 | 26/02/2020 | 5.92 | 7.5 | 17 | 96 | mild | non-aggressive | shallow |
| SRT_BH052 | 16/03/2020 | 6.19 | 6.2 | 15 | 35 | mild | non-aggressive | shallow |
| SRT_BH059 | 18/10/2019 | 7.08 | 8.1 | 11 | 22 | mild | non-aggressive | shallow |
| SRT_BH059 | 15/11/2019 | 9.93 | 8 | 14 | 43 | mild | non-aggressive | shallow |
| SRT_BH059 | 18/12/2019 | 6.89 | 7.9 | 13 | 12 | mild | non-aggressive | shallow |
| SRT_BH059 | 20/01/2020 | 7.14 | 6.4 | 20 | 59 | mild | non-aggressive | shallow |
| SRT_BH059 | 26/02/2020 | 6.91 | 8.2 | 27 | 22 | mild | non-aggressive | shallow |
| SRT_BH059 | 16/03/2020 | 6.98 | 7 | 12 | 9.5 | mild | non-aggressive | shallow |
| SRT_BH060 | 16/03/2020 | 7.4 | 7.4 | 30 | 31 | mild | non-aggressive | shallow |
| SRT_CBH015 | 18/10/2019 | 5.2 | 6.3 | 39 | 15 | moderate | mild | shallow |
| SRT_CBH015 | 15/11/2019 | 5.17 | 6.3 | 41 | 64 | moderate | mild | shallow |
| SRT_CBH015 | 18/12/2019 | 5.28 | 6.1 | 45 | 14 | moderate | mild | shallow |
| SRT_CBH017 | 18/10/2019 | 6.03 | 7.1 | 32 | 15 | mild | non-aggressive | shallow |
| SRT_CBH017 | 15/11/2019 | 6.2 | 7.2 | 30 | 50 | mild | non-aggressive | shallow |
| SRT_CBH017 | 18/12/2019 | 6.02 | 7 | 31 | 13 | mild | non-aggressive | shallow |
| SRT_CBH017 | 20/01/2020 | 6.28 | 6.2 | 34 | 85 | mild | non-aggressive | shallow |

Appendix B
Table B7
Calculated RPD Tables

| | | | Date | 16/10/2019 | 16/10/2019 | | 17/10/2019 | 17/10/2019 | | 13/11/2019 | 13/11/2019 | | 14/11/2019 | 14/11/2019 | | 17/12/2019 | 17/12/2019 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Field ID | CSM_BH10S | QC01 | | CSM_BH04 | QC02 | | CSM_BH04 | QC01 | | CSM_BH10S | QC02 | | CSM_BH06 | QC01 | |
| | | | Lab Report Number | 683453 | ES1934142 | | 683453 | 683453 | | 688512 | ES1937682 | | 688512 | 688512 | | 694466 | 694466 | |
| | | | Matrix Type | water | water | RPD | water | water | RPD | water | water | RPD | water | water | RPD | water | water | RPD |
| | Unit | EQL | | | | | | | | | | | | | | | | |
| Metals | | | | | | | | | | | | | | | | | | |
| Arsenic (filtered) | mg/L | 0.001 | | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 |
| Cadmium (filtered) | mg/L | 0.0001 | | <0.0002 | <0.0001 | 0 | <0.0002 | <0.0002 | 0 | <0.0002 | 0.0001 | 0 | <0.0002 | <0.0002 | 0 | <0.0002 | <0.0002 | 0 |
| Chromium (III+VI) (filtered) | mg/L | 0.001 | | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 |
| Copper (filtered) | mg/L | 0.001 | | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | 0.031 | 0.031 | 0 |
| Lead (filtered) | mg/L | 0.001 | | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 |
| Manganese (filtered) | mg/L | 0.005 | | 0.53 | | | 0.048 | | | 0.33 | | | 0.47 | | | 0.29 | | |
| Mercury (filtered) | mg/L | 0.0001 | | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 |
| Nickel (filtered) | mg/L | 0.001 | | 0.002 | 0.001 | **67** | 0.001 | 0.001 | 0 | 0.010 | 0.010 | 0 | 0.002 | 0.002 | 0 | 0.026 | 0.027 | 4 |
| Zinc (filtered) | mg/L | 0.005 | | <0.005 | <0.005 | 0 | <0.005 | <0.005 | 0 | <0.005 | <0.005 | 0 | <0.005 | <0.005 | 0 | 0.054 | 0.056 | 4 |
| BTEXN | | | | | | | | | | | | | | | | | | |
| Benzene | µg/L | 1 | | <1 | <1 | 0 | <1 | <1 | 0 | <1 | <1 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| Toluene | µg/L | 1 | | 1 | <2 | 0 | <1 | <1 | 0 | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| Ethylbenzene | µg/L | 1 | | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| Xylene (o) | µg/L | 1 | | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| Xylene (m & p) | µg/L | 2 | | <2 | <2 | 0 | <2 | <2 | 0 | <2 | <2 | 0 | <2 | <2 | 0 | <2 | <2 | 0 |
| Naphthalene (BTEXN) | µg/L | 5 | | <10 | <5 | 0 | <10 | <10 | 0 | <10 | <5 | 0 | <10 | <10 | 0 | <10 | <10 | 0 |
| TRH - NEPM 2013 | | | | | | | | | | | | | | | | | | |
| F1 (C6-C10 minus BTEX) | µg/L | 20 | | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| C6-C10 Fraction | µg/L | 20 | | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| F2 (>C10-C16 minus Naphthalene) | µg/L | 50 | | <50 | <100 | 0 | <50 | <50 | 0 | <50 | <100 | 0 | 400 | <50 | **156** | <50 | <50 | 0 |
| >C10-C16 Fraction | µg/L | 50 | | <50 | <100 | 0 | <50 | <50 | 0 | <50 | <100 | 0 | 400 | <50 | **156** | <50 | <50 | 0 |
| F3 (>C16-C34 Fraction) | µg/L | 100 | | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | 300 | **100** |
| F4 (>C34-C40 Fraction) | µg/L | 100 | | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 |
| TRH - NEPM 1999 | | | | | | | | | | | | | | | | | | |
| C6-C9 Fraction | µg/L | 20 | | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| C10-C14 Fraction | µg/L | 50 | | <50 | <50 | 0 | <50 | 100 | **67** | <50 | <50 | 0 | 350 | <50 | **150** | <50 | <50 | 0 |
| C15-C28 Fraction | µg/L | 100 | | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | 300 | **100** |
| C29-C36 Fraction | µg/L | 50 | | <100 | <50 | 0 | <100 | <100 | 0 | <100 | <50 | 0 | <100 | <100 | 0 | <100 | <100 | 0 |
| PAHs | | | | | | | | | | | | | | | | | | |
| Benzo(e)pyrene | µg/L | 0.1 | | | | | | | | | | | | | | | | |
| Acenaphthene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Acenaphthylene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Anthracene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Benz(a)anthracene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Benzo(a) pyrene | µg/L | 0.01 | | <1 | <0.5 | 0 | <1 | <1 | 0 | <1 | <0.5 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Benzo[b+j]fluoranthene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Benzo(k)fluoranthene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Chrysene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Fluoranthene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Fluorene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Naphthalene-PAH | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Phenanthrene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |
| Pyrene | µg/L | 0.01 | | <1 | <1.0 | 0 | <1 | <1 | 0 | <1 | <1.0 | 0 | <1 | <1 | 0 | <0.01 | <1 | 0 |

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 30 (1 - 10 x EQL); 30 (10 - 30 x EQL); 30 ( > 30 x EQL) )**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Appendix B
Table B7
Calculated RPD Tables

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20/01/2020 | 20/01/2020 | | 21/01/2020 | 21/01/2020 | | 24/02/2020 | 24/02/2020 | | 25/02/2020 | 25/02/2020 | | 17/03/2020 | 17/03/2020 | |
| | | CSM_BH10S | QC01 | | CSM_BH04 | QC02 | | CSM_BH09S | QC01 | | CSM_BH04 | QC02 | | CSM_BH10S | QC02 | |
| | | L 698379 | ES2001825 | | 698379 | 698379 | | 704673 | ES2006512 | | 704673 | 704673 | | 708508 | 708508 | |
| | | water | water | RPD | water | water | RPD | water | water | RPD | water | water | RPD | water | water | RPD |
| | Unit | | | | | | | | | | | | | | | |
| Metals | | | | | | | | | | | | | | | | |
| Arsenic (filtered) | mg/L | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | 0.001 | 0 |
| Cadmium (filtered) | mg/L | <0.0002 | <0.0001 | 0 | <0.0002 | <0.0002 | 0 | <0.0002 | <0.0001 | 0 | <0.0002 | <0.0002 | 0 | <0.0002 | <0.0002 | 0 |
| Chromium (III+VI) (filtered) | mg/L | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 |
| Copper (filtered) | mg/L | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | 0.001 | <0.001 | 0 |
| Lead (filtered) | mg/L | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 | <0.001 | <0.001 | 0 |
| Manganese (filtered) | mg/L | 0.49 | | | 0.37 | | | 0.60 | | | 0.34 | | | 0.54 | | |
| Mercury (filtered) | mg/L | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 | 0 |
| Nickel (filtered) | mg/L | 0.001 | <0.001 | 0 | 0.007 | 0.008 | 13 | 0.002 | 0.003 | **40** | 0.025 | 0.026 | 4 | 0.002 | 0.002 | 0 |
| Zinc (filtered) | mg/L | <0.005 | <0.005 | 0 | 0.041 | 0.041 | 0 | 0.014 | 0.011 | 24 | 0.021 | 0.021 | 0 | <0.005 | <0.005 | 0 |
| BTEXN | | | | | | | | | | | | | | | | |
| Benzene | µg/L | <1 | <1 | 0 | <1 | <1 | 0 | <1 | <1 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| Toluene | µg/L | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <2 | 0 | <1 | <1 | 0 | <1 | 1 | 0 |
| Ethylbenzene | µg/L | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| Xylene (o) | µg/L | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <2 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| Xylene (m & p) | µg/L | <2 | <2 | 0 | <2 | <2 | 0 | <2 | <2 | 0 | <2 | <2 | 0 | <2 | <2 | 0 |
| Naphthalene (BTEXN) | µg/L | <10 | <5 | 0 | <10 | <10 | 0 | <10 | <5 | 0 | <10 | <10 | 0 | <10 | <10 | 0 |
| TRH - NEPM 2013 | | | | | | | | | | | | | | | | |
| F1 (C6-C10 minus BTEX) | µg/L | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| C6-C10 Fraction | µg/L | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| F2 (>C10-C16 minus Naphthalene) | µg/L | <50 | <100 | 0 | <50 | <50 | 0 | <50 | <100 | 0 | <50 | <50 | 0 | <50 | <50 | 0 |
| >C10-C16 Fraction | µg/L | <50 | <100 | 0 | <50 | <50 | 0 | <50 | <100 | 0 | <50 | <50 | 0 | <50 | <50 | 0 |
| F3 (>C16-C34 Fraction) | µg/L | <100 | <100 | 0 | <100 | 200 | **67** | <100 | <100 | 0 | <100 | 300 | **100** | <100 | <100 | 0 |
| F4 (>C34-C40 Fraction) | µg/L | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 |
| TRH - NEPM 1999 | | | | | | | | | | | | | | | | |
| C6-C9 Fraction | µg/L | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| C10-C14 Fraction | µg/L | <50 | <50 | 0 | <50 | <50 | 0 | <50 | <50 | 0 | <50 | <50 | 0 | <50 | <50 | 0 |
| C15-C28 Fraction | µg/L | <100 | <100 | 0 | <100 | 100 | 0 | <100 | <100 | 0 | <100 | 200 | **67** | <100 | <100 | 0 |
| C29-C36 Fraction | µg/L | <100 | <50 | 0 | <100 | <100 | 0 | <100 | <50 | 0 | <100 | <100 | 0 | <100 | <100 | 0 |
| PAHs | | | | | | | | | | | | | | | | |
| Benzo(e)pyrene | µg/L | | <0.1 | | | | | | <0.1 | | | | | | | |
| Acenaphthene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Acenaphthylene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Anthracene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Benz(a)anthracene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Benzo(a) pyrene | µg/L | <0.01 | <0.05 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.05 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Benzo[b+j]fluoranthene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Benzo(k)fluoranthene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Benzo(g,h,i)perylene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Chrysene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Dibenz(a,h)anthracene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Fluoranthene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Fluorene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Naphthalene-PAH | µg/L | <0.01 | <0.1 | 0 | 0.06 | 1.0 | **177** | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Phenanthrene | µg/L | <0.01 | <0.1 | 0 | <0.01 | 0.17 | **178** | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |
| Pyrene | µg/L | <0.01 | <0.1 | 0 | <0.01 | 0.08 | **156** | <0.01 | <0.1 | 0 | <0.01 | <0.01 | 0 | <0.01 | <0.01 | 0 |

***RPDs have only been considered where a concer**
****Elevated RPDs are highlighted as per QAQC Pro**
*****Interlab Duplicates are matched on a per compo**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Date** | 16/10/2019 | 16/10/2019 | 13/11/2019 | 14/11/2019 | 16/12/2019 | 16/12/2019 | 20/01/2020 | 21/01/2020 | 24/02/2020 | 24/02/2020 | 16/03/2020 | 17/03/2020 |
| | | | **Field ID** | RB01 | TRIP BLANK | TRIP BLANK | RB01 | RB01 | TRIP BLANK | TRIP BLANK | RB01 | RB01 | TRIP BLANK | TRIP BLANK | RB01 |
| | | | **Lab Report Number** | 683453 | 683453 | 688512 | 688512 | 694466 | 694466 | 698379 | 698379 | 704673 | 704673 | 708508 | 708508 |
| | | | **Matrix Type** | water | water | water | water | water | water | water | water | water | water | water | water |
| | Unit | EQL | | | | | | | | | | | | | |
| Metals | | | | | | | | | | | | | | | |
| Arsenic | mg/L | 0.001 | | <0.001 | | | <0.001 | <0.001 | | | <0.001 | <0.001 | | | <0.001 |
| Cadmium | mg/L | 0.0002 | | <0.0002 | | | <0.0002 | <0.0002 | | | <0.0002 | <0.0002 | | | <0.0002 |
| Chromium (III+VI) | mg/L | 0.001 | | <0.001 | | | <0.001 | <0.001 | | | <0.001 | <0.001 | | | <0.001 |
| Copper | mg/L | 0.001 | | <0.001 | | | <0.001 | <0.001 | | | <0.001 | <0.001 | | | <0.001 |
| Lead | mg/L | 0.001 | | <0.001 | | | <0.001 | <0.001 | | | <0.001 | <0.001 | | | <0.001 |
| Mercury | mg/L | 0.0001 | | <0.0001 | | | <0.0001 | <0.0001 | | | <0.0001 | <0.0001 | | | <0.0001 |
| Nickel | mg/L | 0.001 | | <0.001 | | | <0.001 | <0.001 | | | <0.001 | <0.001 | | | <0.001 |
| Zinc | mg/L | 0.005 | | <0.005 | | | <0.005 | <0.005 | | | <0.005 | <0.005 | | | <0.005 |
| BTEXN | | | | | | | | | | | | | | | |
| Benzene | µg/L | 1 | | | <1 | <1 | | | <1 | <1 | | | <1 | <1 | |
| Toluene | µg/L | 1 | | | <1 | <1 | | | <1 | <1 | | | <1 | <1 | |
| Ethylbenzene | µg/L | 1 | | | <1 | <1 | | | <1 | <1 | | | <1 | <1 | |
| Xylene (o) | µg/L | 1 | | | <1 | <1 | | | <1 | <1 | | | <1 | <1 | |
| Xylene (m & p) | µg/L | 2 | | | <2 | <2 | | | <2 | <2 | | | <2 | <2 | |
| Xylene Total | µg/L | 3 | | | <3 | <3 | | | <3 | <3 | | | <3 | <3 | |
| Naphthalene (BTEXN) | µg/L | 10 | | | <10 | <10 | | | <10 | <10 | | | <10 | <10 | |
| TRH - NEPM 2013 | | | | | | | | | | | | | | | |
| F1 (C6-C10 minus BTEX) | µg/L | 20 | | | <20 | <20 | | | <20 | <20 | | | <20 | <20 | |
| C6-C10 Fraction | µg/L | 20 | | | <20 | <20 | | | <20 | <20 | | | <20 | <20 | |
| TRH - NEPM 1999 | | | | | | | | | | | | | | | |
| C6-C9 Fraction | µg/L | 20 | | | <20 | <20 | | | <20 | <20 | | | <20 | <20 | |

**Appendix B**

**Table B9 summary of detection and exceedance of contaminants of potential concern (COPC) in groundwater samples (October 2019 to March 2020)**

| COPC | Analyte Detected | Gasworks contaminant | Onsite human health criteria exceeded | Offsite human health criteria exceeded | Offsite ecological criteria exceeded | Sydney water trade waste criteria exceeded |
|---|---|---|---|---|---|---|
| pH | yes | no | yes | yes | yes | yes |
| Cyanide | yes | yes | no | no | yes | no |
| Metals | yes | no | yes | yes | yes | no |
| Ammonia | yes | yes | NA | NA | yes | NA |
| BTEX | yes | yes | yes (vapour) | yes | yes | yes |
| TRH | yes | yes | yes (vapour) | NA | NA | NA |
| PAH | yes | yes | no | yes (mainly due to laboratory detection limits higher than criteria) | no | no |
| phenol | yes | yes | no | no | no | NA |
| OCP | no | no | NA | no | yes (due to laboratory detection limits higher than criteria) | NA |
| OPP | no | no | NA | yes (due to laboratory detection limits higher than criteria) | yes (due to laboratory detection limits higher than criteria) | NA |
| PCB | no | no | NA | NA | NA | NA |

NA : not applicable as no value available in adopted assessment criteria

The australian drinking water guideline value has been adopted as the onsite and offsite human criterion for pH

The ANZECC (2000) default trigger value for estuaries in South-east Australia has been adopted as the ecological criterion for pH

# Appendix C
# Laboratory analytical reports

eurofins | mgt

☑ Sydney
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
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☐ Brisbane
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Phone: +617 3902 4600
Email: enviro.bris@mgtlabmark.com.au

☐ Melbourne
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: enquiries.melb@mgtlabmark.com.au

# CHAIN OF CUSTODY RECORD

CLIENT DETAILS



| | | | |
|---|---|---|---|
| Company Name : GHD Pty Ltd, Sydney | Contact Name : Terry Nham | Purchase Order : | COC Number : |
| Office Address : | Project Manager : Henry Luo | PROJECT Number : 21-27234 | Eurofins \| mgt quote ID : GHD Rates 2019 |
| Level 16, 133 Castlereagh Street, Sydney NSW 2000 | Email for results : terry.nham@ghd.com henry.luo@ghd.com | PROJECT Name : Central | Data output format: ESDAT |

Special Directions & Comments :

Eurofins | mgt DI water batch number:

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide | Ammonia | Major Anions and Cations | | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (B7) | | Ferrous Iron | Manganese | pH | TDS | TSS | | | | | | | Containers: 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag | Sample comments: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CSM_BH02 | 17/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 2 | CSM_BH04 | 17/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 3 | CSM_BH06 | 17/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 4 | CSM_BH08 | 18/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 5 | CSM_BH09S | 16/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 6 | CSM_BH10S | 16/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 7 | SRT_BH047 | 18/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 8 | SRT_BH052 | 18/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 9 | SRT_BH059 | 18/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 10 | ~~SRT_BH063~~ | | ~~Water~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | | |
| 11 | SRT_CBH015 | 18/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 12 | SRT_CBH017 | 18/10/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 13 | GASW_BH7 | 16/10/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 14 | GASW_BH10 | 17/10/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 15 | GASW_BH11 | 16/10/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 16 | GASW_BH23 | 16/10/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | | 1 | | 4 | | 2 | 2 | | | |

Some common holding times (with correct preservation). For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 18/10/19
Signature:

Received By: Rupam
Date & Time : 18/10 6:55PM
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☑ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 2.30°C

Report number: 683453

eurofins | mgt


☑ **Sydney**
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
Email: enviro.syd@mgtlabmark.com.au

☐ **Brisbane**
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Phone: +617 3902 4600
Email: enviro.bris@mgtlabmark.com.au

☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: enquiries.melb@mgtlabmark.com.au


# CHAIN OF CUSTODY RECORD



**CLIENT DETAILS**

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2019 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

**Analytes**

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide | Ammonia | Major Anions and Cations | | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (B7) | | Ferrous Iron | Manganese | pH | TDS | TSS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GASW_BH25a | 16/10/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X |
| 2 | ~~QC01~~ | — | ~~Water~~ | PLEASE SEND TO AES WITH ATTACHED COC | | | | | | | | | | | | | | | |
| 3 | QC02 | 17/10/19 | Water | | | | | | | | | | X | | | | | | |
| 4 | RB01 | 16/10/19 | Water | | | | | | | | | X | | | | | | | |
| 5 | Trip Blank | 16/10/19 | Water | | | | | | | | X | | | | | | | | |
| 6 | Trip Spike | 16/10/19 | Water | | | | | | | | X | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Containers:**

| | 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 4 | | 2 | 2 | | |
| 2 | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | |
| 3 | 1 | | 4 | | 2 | 2 | | |
| 4 | | | 1 | | | | | |
| 5 | | | | | 2 | | | |
| 6 | | | | | 2 | | | |

**Sample comments:**

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 18/10/19
**Signature:**

**Laboratory Staff**
**Received By:** Rupam
**Date & Time :** 18/10 6:55PM
**Signature:**

**Turn around time**
1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

**Method Of Shipment**
☐ Courier
☑ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:**

**Report number:**

eurofins | Environment Testing

**Melbourne**
6 Monterey Road
Dandenong South Vic 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

**Sydney**
Unit F3, Building F
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

**Brisbane**
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

**Perth**
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

| | |
|---|---|
| Company name: | **GHD Pty Ltd NSW** |
| Contact name: | Henry Luo |
| Project name: | CENTRAL |
| Project ID: | 21-27234 |
| COC number: | Not provided |
| Turn around time: | 5 Day |
| Date/Time received: | Oct 18, 2019 6:55 PM |
| Eurofins reference: | **683453** |

## Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 2.3 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

## Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Henry Luo - henry.luo@ghd.com.

**GHD Pty Ltd NSW**
**Level 15, 133 Castlereagh Street**
**Sydney**
**NSW 2000**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Henry Luo**

**Report** **683453-W**
Project name CENTRAL
Project ID 21-27234
Received Date Oct 18, 2019

| **Client Sample ID** | | | **CSM_BH02** | **CSM_BH04** | **CSM_BH06** | **CSM_BH08** |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** | **Water** | **Water** |
| **Eurofins Sample No.** | | | **S19-Oc29253** | **S19-Oc29254** | **S19-Oc29255** | **S19-Oc29256** |
| **Date Sampled** | | | **Oct 17, 2019** | **Oct 17, 2019** | **Oct 17, 2019** | **Oct 18, 2019** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 104 | 104 | 103 | 100 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29253 | S19-Oc29254 | S19-Oc29255 | S19-Oc29256 |
| Date Sampled | | | Oct 17, 2019 | Oct 17, 2019 | Oct 17, 2019 | Oct 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 88 | 78 | 95 | 78 |
| p-Terphenyl-d14 (surr.) | 1 | % | 54 | 116 | 73 | 123 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 86 | 147 | 93 | 76 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 96 | 87 | 57 | 92 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29253 | S19-Oc29254 | S19-Oc29255 | S19-Oc29256 |
| Date Sampled | | | Oct 17, 2019 | Oct 17, 2019 | Oct 17, 2019 | Oct 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 72 | 93 | 116 | 99 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 86 | 147 | 93 | 76 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 96 | 87 | 57 | 92 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29253 | S19-Oc29254 | S19-Oc29255 | S19-Oc29256 |
| Date Sampled | | | Oct 17, 2019 | Oct 17, 2019 | Oct 17, 2019 | Oct 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (non-Halogenated)** | | | | | | |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 34 | 56 | 71 | 65 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.06 | 0.22 | 0.04 | 0.03 |
| Chloride | 1 | mg/L | 500 | 110 | 170 | 120 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 1.2 | 0.08 | 2.0 | 6.2 |
| Nitrate (as N) | 0.02 | mg/L | 0.04 | 0.15 | < 0.02 | 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 7.9 | 9.6 | 7.2 | 7.5 |
| Sulphate (as SO4) | 5 | mg/L | 28 | 34 | 21 | 43 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 530 | 570 | 550 | 330 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 4400 | 290 | 91 | 9.4 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 290 | 240 | 190 | 99 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | 150 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 48 | 5.9 | 39 | 11 |
| Magnesium | 0.5 | mg/L | 39 | 8.8 | 32 | 15 |
| Potassium | 0.5 | mg/L | 5.7 | 4.8 | 4.9 | 3.4 |
| Sodium | 0.5 | mg/L | 120 | 200 | 96 | 75 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.003 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.010 | < 0.001 | 0.015 | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.33 | 0.048 | 0.36 | 0.30 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.028 | 0.001 | 0.027 | 0.003 |
| Zinc (filtered) | 0.005 | mg/L | 0.048 | < 0.005 | 0.14 | 0.013 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29257 | S19-Oc29258 | S19-Oc29259 | S19-Oc29260 |
| Date Sampled | | | Oct 16, 2019 | Oct 16, 2019 | Oct 18, 2019 | Oct 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 99 | 103 | 105 | 95 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 70 | 63 | 64 | 69 |
| p-Terphenyl-d14 (surr.) | 1 | % | 109 | 93 | 104 | 57 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29257 | S19-Oc29258 | S19-Oc29259 | S19-Oc29260 |
| Date Sampled | | | Oct 16, 2019 | Oct 16, 2019 | Oct 18, 2019 | Oct 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 133 | 58 | 130 | 68 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 82 | 72 | 76 | 81 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29257 | S19-Oc29258 | S19-Oc29259 | S19-Oc29260 |
| Date Sampled | | | Oct 16, 2019 | Oct 16, 2019 | Oct 18, 2019 | Oct 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 86 | 75 | 85 | 90 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 133 | 58 | 130 | 68 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 82 | 72 | 76 | 81 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 55 | 51 | 51 | 54 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29257 | S19-Oc29258 | S19-Oc29259 | S19-Oc29260 |
| Date Sampled | | | Oct 16, 2019 | Oct 16, 2019 | Oct 18, 2019 | Oct 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.02 | < 0.01 | < 0.01 | < 0.01 |
| Chloride | 1 | mg/L | 100 | 70 | 34 | 39 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 4.0 | 0.11 | 0.06 | 0.07 |
| Nitrate (as N) | 0.02 | mg/L | 0.18 | 1.6 | 15 | 5.9 |
| pH (at 25°C) | 0.1 | pH Units | 6.7 | 6.5 | 7.8 | 7.6 |
| Sulphate (as SO4) | 5 | mg/L | 200 | 55 | 11 | 26 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 420 | 190 | 340 | 280 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 37 | 210 | 68 | 65 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 39 | 20 | 92 | 78 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 6.1 | 3.5 | 50 | 37 |
| Magnesium | 0.5 | mg/L | 8.0 | 5.3 | 7.4 | 3.0 |
| Potassium | 0.5 | mg/L | 3.5 | 2.5 | 0.8 | 1.3 |
| Sodium | 0.5 | mg/L | 110 | 34 | 30 | 40 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.002 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | 0.002 | 0.002 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.87 | 0.53 | < 0.005 | < 0.005 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.009 | 0.002 | 0.002 | 0.002 |
| Zinc (filtered) | 0.005 | mg/L | 0.040 | < 0.005 | < 0.005 | < 0.005 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29261 | S19-Oc29262 | S19-Oc29263 | S19-Oc29264 |
| Date Sampled | | | Oct 18, 2019 | Oct 18, 2019 | Oct 18, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.18 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.08 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.81 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.81 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.4 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 1.21 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29261 | S19-Oc29262 | S19-Oc29263 | S19-Oc29264 |
| Date Sampled | | | Oct 18, 2019 | Oct 18, 2019 | Oct 18, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.15 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.47 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.8 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 1.27 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.091 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.008 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 101 | 94 | 106 | 91 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 87 | 73 | 86 | 50 |
| p-Terphenyl-d14 (surr.) | 1 | % | 72 | 52 | 69 | 82 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29261 | S19-Oc29262 | S19-Oc29263 | S19-Oc29264 |
| Date Sampled | | | Oct 18, 2019 | Oct 18, 2019 | Oct 18, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 89 | 64 | 82 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 53 | 80 | 52 | - |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Triphenylphosphate (surr.) | 1 | % | 116 | 84 | 111 | - |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29261 | S19-Oc29262 | S19-Oc29263 | S19-Oc29264 |
| Date Sampled | | | Oct 18, 2019 | Oct 18, 2019 | Oct 18, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 89 | 64 | 82 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 53 | 80 | 52 | - |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.005 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 65 | 27 | 65 | 44 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.19 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.13 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.13 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | 0.03 |
| Chloride | 1 | mg/L | 22 | 15 | 15 | 49 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 0.06 | 0.07 | 0.09 | 14 |
| Nitrate (as N) | 0.02 | mg/L | 2.4 | 3.0 | 0.33 | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 8.1 | 6.3 | 7.1 | 3.6 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29261 | S19-Oc29262 | S19-Oc29263 | S19-Oc29264 |
| Date Sampled | | | Oct 18, 2019 | Oct 18, 2019 | Oct 18, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| | | | | | | |
| Sulphate (as SO4) | 5 | mg/L | 11 | 39 | 32 | 160 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 250 | 150 | 150 | 310 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 4.9 | 10 | 2.3 | 19 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 170 | 23 | 63 | < 20 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 59 | 2.8 | 11 | 2.7 |
| Magnesium | 0.5 | mg/L | 6.0 | 5.3 | 9.1 | 4.3 |
| Potassium | 0.5 | mg/L | 5.9 | 3.5 | 3.2 | 0.5 |
| Sodium | 0.5 | mg/L | 10 | 19 | 21 | 63 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.003 | 0.001 | 0.017 | 0.004 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.001 | 0.003 |
| Manganese (filtered) | 0.005 | mg/L | < 0.005 | 6.8 | 0.60 | 0.11 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | < 0.001 | 0.012 | 0.016 | 0.002 |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | 0.023 | 0.069 | 0.033 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | GASW_BH23 | GASW_BH25a |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29265 | S19-Oc29266 | S19-Oc29267 | S19-Oc29268 |
| Date Sampled | | | Oct 17, 2019 | Oct 16, 2019 | Oct 16, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.2 | < 0.2 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | 0.04 | 6.8 | 8.9 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | 4.0 | 5.0 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | 0.21 | < 0.05 | 0.09 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | 0.21 | < 0.05 | < 0.2 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.21 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | 0.03 | 6.8 | 8.9 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | 0.12 | < 0.05 | 0.08 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.12 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 0.020 | 2.4 | 2.7 |
| Toluene | 0.001 | mg/L | < 0.001 | 0.002 | 0.29 | 0.99 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.040 | 0.040 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | 0.044 | 0.095 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | GASW_BH23 | GASW_BH25a |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29265 | S19-Oc29266 | S19-Oc29267 | S19-Oc29268 |
| Date Sampled | | | Oct 17, 2019 | Oct 16, 2019 | Oct 16, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **BTEX** | | | | | | |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.029 | 0.050 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | 0.073 | 0.14 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 108 | 108 | 103 | 102 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.004 | 0.002 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | 0.004 | 0.002 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 72 | 69 | 76 | 91 |
| p-Terphenyl-d14 (surr.) | 1 | % | 60 | 55 | 59 | 75 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.005 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | 0.022 | 0.011 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 48 | 47 | 53 | 63 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | GASW_BH23 | GASW_BH25a |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29265 | S19-Oc29266 | S19-Oc29267 | S19-Oc29268 |
| Date Sampled | | | Oct 17, 2019 | Oct 16, 2019 | Oct 16, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | < 0.01 | 0.04 | 0.52 | 0.42 |
| Chloride | 1 | mg/L | 170 | 74 | 45 | 48 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | 0.006 | 0.009 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 9.0 | 1.2 | 9.8 | 0.15 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.03 |
| pH (at 25°C) | 0.1 | pH Units | 7.4 | 6.5 | 7.7 | 8.1 |
| Sulphate (as SO4) | 5 | mg/L | < 5 | 50 | 330 | 140 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 830 | 200 | 710 | 360 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 280 | 11 | 25 | 37 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 370 | 37 | 190 | 110 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 67 | 4.5 | 150 | 67 |
| Magnesium | 0.5 | mg/L | 47 | 6.3 | 12 | 4.4 |
| Potassium | 0.5 | mg/L | 9.4 | 1.4 | 11 | 5.5 |
| Sodium | 0.5 | mg/L | 130 | 46 | 31 | 28 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.004 | 0.005 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | 0.003 | < 0.001 | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.38 | 0.23 | 0.41 | 0.094 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.031 | 0.003 | 0.001 | < 0.001 |
| Zinc (filtered) | 0.005 | mg/L | 0.010 | 0.011 | 0.007 | < 0.005 |

| Client Sample ID | | | QC02 | RB01 | TRIP BLANK | [R20]TRIP SPIKE |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29269 | S19-Oc29270 | S19-Oc29271 | S19-Oc29272 |
| Date Sampled | | | Oct 17, 2019 | Oct 16, 2019 | Oct 16, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | - | < 0.01 | 120 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | - | < 0.02 | 82 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | - | < 0.02 | - |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | - | - | - |

| Client Sample ID | | | QC02 | RB01 | TRIP BLANK | [R20]TRIP SPIKE |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-Oc29269 | S19-Oc29270 | S19-Oc29271 | S19-Oc29272 |
| Date Sampled | | | Oct 17, 2019 | Oct 16, 2019 | Oct 16, 2019 | Oct 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | - | < 0.02 | 80 |
| TRH C10-C14 | 0.05 | mg/L | 0.10 | - | - | - |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH C10-C36 (Total) | 0.1 | mg/L | 0.1 | - | - | - |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 110 |
| Toluene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 110 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 100 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | - | < 0.002 | 100 |
| o-Xylene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 110 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | - | < 0.003 | 100 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 102 | - | 99 | 103 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | - | - | - |
| Anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Chrysene | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Fluoranthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Fluorene | 0.001 | mg/L | < 0.001 | - | - | - |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Naphthalene | 0.001 | mg/L | < 0.001 | - | - | - |
| Phenanthrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Total PAH* | 0.001 | mg/L | < 0.001 | - | - | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | 90 | - | - | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 130 | - | - | - |
| **Heavy Metals** | | | | | | |
| Arsenic | 0.001 | mg/L | - | < 0.001 | - | - |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Cadmium | 0.0002 | mg/L | - | < 0.0002 | - | - |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | - | - | - |
| Chromium | 0.001 | mg/L | - | < 0.001 | - | - |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Copper | 0.001 | mg/L | - | < 0.001 | - | - |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Lead | 0.001 | mg/L | - | < 0.001 | - | - |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Mercury | 0.0001 | mg/L | - | < 0.0001 | - | - |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Nickel | 0.001 | mg/L | - | < 0.001 | - | - |
| Nickel (filtered) | 0.001 | mg/L | 0.001 | - | - | - |
| Zinc | 0.005 | mg/L | - | < 0.005 | - | - |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | - | - | - |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Oct 23, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons | Melbourne | Oct 23, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Melbourne | Oct 23, 2019 | 14 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Eurofins \| mgt Suite B7A (filtered metals) | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Oct 24, 2019 | |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Polycyclic Aromatic Hydrocarbons | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (Halogenated) | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (non-Halogenated) | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Metals M8 filtered | Melbourne | Oct 23, 2019 | 28 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Eurofins \| mgt Suite B15 | | | |
| Organochlorine Pesticides | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) | | | |
| Organophosphorus Pesticides | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081) | | | |
| Polychlorinated Biphenyls | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082) | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | Melbourne | Oct 24, 2019 | 7 Days |
| - Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A | | | |
| Major Cations | | | |
| Ammonia (as N) | Melbourne | Oct 23, 2019 | 28 Days |
| - Method: LTM-INO-4200 Ammonia by Discrete Analyser | | | |
| Alkali Metals | Melbourne | Oct 23, 2019 | 180 Days |
| - Method: LTM-MET-3010 Alkali Metals S Si and P by ICP-AES | | | |
| Major Anions | | | |
| Chloride | Melbourne | Oct 23, 2019 | 28 Days |
| - Method: LTM-INO-4090 Chloride by Discrete Analyser | | | |
| Nitrate (as N) | Melbourne | Oct 23, 2019 | 28 Days |
| - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | | | |
| Sulphate (as SO4) | Melbourne | Oct 23, 2019 | 28 Days |
| - Method: LTM-INO-4110 Sulfate by Discrete Analyser | | | |
| Alkalinity (speciated) | Melbourne | Oct 23, 2019 | 14 Days |
| - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | | | |
| Cyanide (total) | Melbourne | Oct 23, 2019 | 14 Days |
| - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA | | | |
| Ferrous Iron - Fe2+ | Melbourne | Oct 23, 2019 | 7 Days |
| - Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser | | | |
| pH (at 25°C) | Melbourne | Oct 23, 2019 | 0 Hours |
| - Method: LTM-GEN-7090 pH in water by ISE | | | |

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Total Dissolved Solids Dried at 180°C ± 2°C | Melbourne | Oct 23, 2019 | 7 Days |
| - Method: LTM-INO-4170 Total Dissolved Solids in Water | | | |
| Total Suspended Solids Dried at 103–105°C | Melbourne | Oct 23, 2019 | 7 Days |
| - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | | | |
| Metals M8 | Melbourne | Oct 23, 2019 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Heavy Metals (filtered) | Melbourne | Oct 23, 2019 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |

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NATA # 1261
Site # 23736

**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:**
**Report #:** 683453
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Oct 18, 2019 6:55 PM
**Due:** Oct 25, 2019
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Eurofins \| mgt Suite B15 | Major Anions | Major Cations | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B7A (filtered metals) | BTEXN and Volatile TRH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | |
| **External Laboratory** | | | | | | | | | | | | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | | | | | | | | | | | | |
| 1 | CSM_BH02 | Oct 17, 2019 | | Water | S19-Oc29253 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 2 | CSM_BH04 | Oct 17, 2019 | | Water | S19-Oc29254 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 3 | CSM_BH06 | Oct 17, 2019 | | Water | S19-Oc29255 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 4 | CSM_BH08 | Oct 18, 2019 | | Water | S19-Oc29256 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 5 | CSM_BH09S | Oct 16, 2019 | | Water | S19-Oc29257 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 6 | CSM_BH10S | Oct 16, 2019 | | Water | S19-Oc29258 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 7 | SRT_BH047 | Oct 18, 2019 | | Water | S19-Oc29259 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 8 | SRT_BH052 | Oct 18, 2019 | | Water | S19-Oc29260 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 9 | SRT_BH059 | Oct 18, 2019 | | Water | S19-Oc29261 | X | X | X | X | X | X | | X | X | X | X | | X | |

eurofins | Environment Testing

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| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Eurofins \| mgt Suite B15 | Major Anions | Major Cations | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B7A (filtered metals) | BTEXN and Volatile TRH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | |
| 10 | SRT_CBH015 | Oct 18, 2019 | | Water | S19-Oc29262 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 11 | SRT_CBH017 | Oct 18, 2019 | | Water | S19-Oc29263 | X | X | X | X | X | X | | X | X | X | X | | X | |
| 12 | GASW_BH7 | Oct 16, 2019 | | Water | S19-Oc29264 | X | X | X | X | X | X | | | X | X | X | | X | |
| 13 | GASW_BH10 | Oct 17, 2019 | | Water | S19-Oc29265 | X | X | X | X | X | X | | | X | X | X | | X | |
| 14 | GASW_BH11 | Oct 16, 2019 | | Water | S19-Oc29266 | X | X | X | X | X | X | | | X | X | X | | X | |
| 15 | GASW_BH23 | Oct 16, 2019 | | Water | S19-Oc29267 | X | X | X | X | X | X | | | X | X | X | | X | |
| 16 | GASW_BH25a | Oct 16, 2019 | | Water | S19-Oc29268 | X | X | X | X | X | X | | | X | X | X | | X | |
| 17 | QC02 | Oct 17, 2019 | | Water | S19-Oc29269 | | | | | | | | | | | | X | | |
| 18 | RB01 | Oct 16, 2019 | | Water | S19-Oc29270 | | | | | | | X | | | | | | | |
| 19 | TRIP BLANK | Oct 16, 2019 | | Water | S19-Oc29271 | | | | | | | | | | | | | | X |
| 20 | TRIP SPIKE | Oct 16, 2019 | | Water | S19-Oc29272 | | | | | | | | | | | | | | X |
| **Test Counts** | | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 1 | 11 | 16 | 16 | 16 | 1 | 16 | 2 |

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per kilogram

**mg/L:** milligrams per litre

**ug/L:** micrograms per litre

**ppm:** Parts per million

**ppb:** Parts per billion

**%:** Percentage

**org/100mL:** Organisms per 100 millilitres

**NTU:** Nephelometric Turbidity Units

**MPN/100mL:** Most Probable Number of organisms per 100 millilitres

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery. |
| **CRM** | Certified Reference Material - reported as percent recovery. |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **QSM** | US Department of Defense Quality Systems Manual Version 5.3 |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within. |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH >C10-C16 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C10-C14 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Toluene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Ethylbenzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| m&p-Xylenes | mg/L | < 0.002 | | | 0.002 | Pass | |
| o-Xylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Xylenes - Total | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | |
| Acenaphthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Acenaphthylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benz(a)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(g.h.i)perylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chrysene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Dibenz(a.h)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluorene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Naphthalene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Phenanthrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | mg/L | < 0.001 | | | 0.001 | Pass | |
| 4.4'-DDD | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDE | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDT | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Endosulfan I | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan sulphate | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.01 | | | 0.01 | Pass | |
| **Method Blank** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Azinphos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Bolstar | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorfenvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorpyrifos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Chlorpyrifos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Coumaphos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-S | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-O | mg/L | < 0.002 | | | 0.002 | Pass | |
| Diazinon | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dichlorvos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dimethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Disulfoton | mg/L | < 0.002 | | | 0.002 | Pass | |
| EPN | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethoprop | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenitrothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fensulfothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Malathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Merphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Methyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Mevinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Monocrotophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Naled | mg/L | < 0.002 | | | 0.002 | Pass | |
| Omethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Phorate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Pirimiphos-methyl | mg/L | < 0.02 | | | 0.02 | Pass | |
| Pyrazophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ronnel | mg/L | < 0.002 | | | 0.002 | Pass | |
| Terbufos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tetrachlorvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tokuthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Trichloronate | mg/L | < 0.002 | | | 0.002 | Pass | |
| **Method Blank** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1016 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1242 | mg/L | < 0.001 | | | 0.001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Aroclor-1248 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1254 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1260 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Total PCB* | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4.5-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4.6-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.6-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 4-Chloro-3-methylphenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Pentachlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Tetrachlorophenols - Total | mg/L | < 0.03 | | | 0.03 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | mg/L | < 0.1 | | | 0.1 | Pass | |
| 2-Methyl-4.6-dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 2-Methylphenol (o-Cresol) | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2-Nitrophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4-Dimethylphenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | mg/L | < 0.006 | | | 0.006 | Pass | |
| 4-Nitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| Dinoseb | mg/L | < 0.1 | | | 0.1 | Pass | |
| Phenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Chloride | mg/L | < 1 | | | 1 | Pass | |
| Cyanide (total) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Ferrous Iron - Fe2+ | mg/L | < 0.05 | | | 0.05 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Sulphate (as SO4) | mg/L | < 5 | | | 5 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | mg/L | < 10 | | | 10 | Pass | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 1 | | | 1 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Magnesium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Potassium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Sodium | mg/L | < 0.5 | | | 0.5 | Pass | |
| **Method Blank** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | mg/L | < 0.001 | | | 0.001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Cadmium | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Mercury | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Mercury (filtered) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Nickel | mg/L | < 0.001 | | | 0.001 | Pass | |
| Nickel (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Zinc | mg/L | < 0.005 | | | 0.005 | Pass | |
| Zinc (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | % | 115 | | | 70-130 | Pass | |
| Naphthalene | % | 108 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 107 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 91 | | | 70-130 | Pass | |
| TRH >C10-C16 | % | 78 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | % | 103 | | | 70-130 | Pass | |
| TRH C10-C14 | % | 95 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | % | 102 | | | 70-130 | Pass | |
| Toluene | % | 102 | | | 70-130 | Pass | |
| Ethylbenzene | % | 104 | | | 70-130 | Pass | |
| m&p-Xylenes | % | 99 | | | 70-130 | Pass | |
| Xylenes - Total | % | 100 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | |
| Acenaphthene | % | 87 | | | 70-130 | Pass | |
| Acenaphthylene | % | 127 | | | 70-130 | Pass | |
| Anthracene | % | 79 | | | 70-130 | Pass | |
| Benz(a)anthracene | % | 90 | | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 79 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 111 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | % | 104 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 114 | | | 70-130 | Pass | |
| Chrysene | % | 88 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | % | 73 | | | 70-130 | Pass | |
| Fluoranthene | % | 94 | | | 70-130 | Pass | |
| Fluorene | % | 120 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | % | 74 | | | 70-130 | Pass | |
| Naphthalene | % | 121 | | | 70-130 | Pass | |
| Phenanthrene | % | 91 | | | 70-130 | Pass | |
| Pyrene | % | 98 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Chlordanes - Total | % | 100 | | | 70-130 | Pass | |
| 4.4'-DDD | % | 94 | | | 70-130 | Pass | |
| 4.4'-DDE | % | 125 | | | 70-130 | Pass | |
| 4.4'-DDT | % | 98 | | | 70-130 | Pass | |
| a-BHC | % | 97 | | | 70-130 | Pass | |
| Aldrin | % | 100 | | | 70-130 | Pass | |
| b-BHC | % | 104 | | | 70-130 | Pass | |
| d-BHC | % | 94 | | | 70-130 | Pass | |
| Dieldrin | % | 120 | | | 70-130 | Pass | |
| Endosulfan I | % | 93 | | | 70-130 | Pass | |
| Endosulfan II | % | 102 | | | 70-130 | Pass | |
| Endosulfan sulphate | % | 100 | | | 70-130 | Pass | |
| Endrin | % | 100 | | | 70-130 | Pass | |
| Endrin aldehyde | % | 76 | | | 70-130 | Pass | |
| Endrin ketone | % | 86 | | | 70-130 | Pass | |
| g-BHC (Lindane) | % | 111 | | | 70-130 | Pass | |
| Heptachlor | % | 71 | | | 70-130 | Pass | |
| Heptachlor epoxide | % | 93 | | | 70-130 | Pass | |
| Hexachlorobenzene | % | 98 | | | 70-130 | Pass | |
| Methoxychlor | % | 104 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Diazinon | % | 123 | | | 70-130 | Pass | |
| Dimethoate | % | 77 | | | 70-130 | Pass | |
| Ethion | % | 91 | | | 70-130 | Pass | |
| Fenitrothion | % | 92 | | | 70-130 | Pass | |
| Methyl parathion | % | 83 | | | 70-130 | Pass | |
| Mevinphos | % | 100 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1260 | % | 88 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | % | 102 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | % | 82 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | % | 83 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | % | 77 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | % | 104 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | % | 70 | | | 30-130 | Pass | |
| Pentachlorophenol | % | 57 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | % | 68 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | % | 39 | | | 30-130 | Pass | |
| 2-Methyl-4.6-dinitrophenol | % | 62 | | | 30-130 | Pass | |
| 2-Methylphenol (o-Cresol) | % | 66 | | | 30-130 | Pass | |
| 2-Nitrophenol | % | 98 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | % | 121 | | | 30-130 | Pass | |
| 2.4-Dinitrophenol | % | 31 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | % | 64 | | | 30-130 | Pass | |
| 4-Nitrophenol | % | 51 | | | 30-130 | Pass | |
| Dinoseb | % | 94 | | | 30-130 | Pass | |
| Phenol | % | 50 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | % | 78 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | % | 88 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| Ammonia (as N) | % | 95 | | | 70-130 | Pass | |
| Chloride | % | 102 | | | 70-130 | Pass | |
| Cyanide (total) | % | 99 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | % | 102 | | | 70-130 | Pass | |
| Nitrate (as N) | % | 97 | | | 70-130 | Pass | |
| Sulphate (as SO4) | % | 110 | | | 70-130 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | % | 95 | | | 70-130 | Pass | |
| Total Suspended Solids Dried at 103–105°C | % | 105 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Carbonate Alkalinity (as CaCO3) | % | 97 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | % | 97 | | | 70-130 | Pass | |
| Magnesium | % | 92 | | | 70-130 | Pass | |
| Potassium | % | 98 | | | 70-130 | Pass | |
| Sodium | % | 106 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | % | 92 | | | 80-120 | Pass | |
| Cadmium | % | 98 | | | 80-120 | Pass | |
| Chromium | % | 96 | | | 80-120 | Pass | |
| Copper | % | 96 | | | 80-120 | Pass | |
| Lead | % | 94 | | | 80-120 | Pass | |
| Mercury | % | 99 | | | 75-125 | Pass | |
| Nickel | % | 95 | | | 80-120 | Pass | |
| Zinc | % | 89 | | | 80-120 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| Naphthalene | M19-Oc35974 | NCP | % | 105 | | | 70-130 | Pass | |
| TRH C6-C10 | M19-Oc35974 | NCP | % | 112 | | | 70-130 | Pass | |
| TRH >C10-C16 | M19-Oc28329 | NCP | % | 116 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C6-C9 | M19-Oc35974 | NCP | % | 108 | | | 70-130 | Pass | |
| TRH C10-C14 | M19-Oc28329 | NCP | % | 121 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **BTEX** | | | | Result 1 | | | | | |
| Benzene | M19-Oc35974 | NCP | % | 103 | | | 70-130 | Pass | |
| Toluene | M19-Oc35974 | NCP | % | 106 | | | 70-130 | Pass | |
| Ethylbenzene | M19-Oc35974 | NCP | % | 107 | | | 70-130 | Pass | |
| m&p-Xylenes | M19-Oc35974 | NCP | % | 102 | | | 70-130 | Pass | |
| o-Xylene | M19-Oc35974 | NCP | % | 104 | | | 70-130 | Pass | |
| Xylenes - Total | M19-Oc35974 | NCP | % | 102 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Sulphate (as SO4) | M19-Oc29493 | NCP | % | 116 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | | | | | |
| Carbonate Alkalinity (as CaCO3) | B19-Oc28732 | NCP | % | 72 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Calcium | M19-Oc31175 | NCP | % | 91 | | | 70-130 | Pass | |
| Potassium | M19-Oc31175 | NCP | % | 92 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | Result 1 | | | | | |
| Acenaphthene | M19-Oc34483 | NCP | % | 112 | | | 70-130 | Pass | |
| Acenaphthylene | M19-Oc34483 | NCP | % | 109 | | | 70-130 | Pass | |
| Anthracene | M19-Oc34483 | NCP | % | 88 | | | 70-130 | Pass | |
| Benz(a)anthracene | M19-Oc34483 | NCP | % | 88 | | | 70-130 | Pass | |
| Benzo(a)pyrene | M19-Oc34483 | NCP | % | 89 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | M19-Oc34483 | NCP | % | 121 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | M19-Oc34483 | NCP | % | 87 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | M19-Oc34483 | NCP | % | 115 | | | 70-130 | Pass | |
| Chrysene | M19-Oc34483 | NCP | % | 114 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | M19-Oc34483 | NCP | % | 95 | | | 70-130 | Pass | |
| Fluoranthene | M19-Oc34483 | NCP | % | 90 | | | 70-130 | Pass | |
| Fluorene | M19-Oc34483 | NCP | % | 113 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | M19-Oc34483 | NCP | % | 112 | | | 70-130 | Pass | |
| Naphthalene | M19-Oc34483 | NCP | % | 71 | | | 70-130 | Pass | |
| Phenanthrene | M19-Oc34483 | NCP | % | 89 | | | 70-130 | Pass | |
| Pyrene | M19-Oc34483 | NCP | % | 89 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | | | | | |
| 2-Chlorophenol | M19-Oc34483 | NCP | % | 92 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | M19-Oc34483 | NCP | % | 93 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | M19-Oc34483 | NCP | % | 92 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | M19-Oc34483 | NCP | % | 91 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | M19-Oc34483 | NCP | % | 97 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | M19-Oc34483 | NCP | % | 76 | | | 30-130 | Pass | |
| Pentachlorophenol | M19-Oc34483 | NCP | % | 75 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | M19-Oc34483 | NCP | % | 99 | | | 30-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | M19-Oc34483 | NCP | % | 80 | | | 30-130 | Pass | |
| 2-Methyl-4.6-dinitrophenol | M19-Oc34483 | NCP | % | 91 | | | 30-130 | Pass | |
| 2-Methylphenol (o-Cresol) | M19-Oc34483 | NCP | % | 64 | | | 30-130 | Pass | |
| 2-Nitrophenol | M19-Oc34483 | NCP | % | 93 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | M19-Oc34483 | NCP | % | 32 | | | 30-130 | Pass | |
| 2.4-Dinitrophenol | M19-Oc34483 | NCP | % | 90 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | M19-Oc34483 | NCP | % | 64 | | | 30-130 | Pass | |
| 4-Nitrophenol | M19-Oc34483 | NCP | % | 37 | | | 30-130 | Pass | |
| Dinoseb | M19-Oc34483 | NCP | % | 94 | | | 30-130 | Pass | |
| Phenol | M19-Oc34483 | NCP | % | 44 | | | 30-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ferrous Iron - Fe2+ | S19-Oc29254 | CP | % | 100 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | S19-Oc29256 | CP | % | 97 | | | 70-130 | Pass | |
| Cadmium (filtered) | S19-Oc29256 | CP | % | 97 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| Chromium (filtered) | S19-Oc29256 | CP | % | 96 | | | 70-130 | Pass | |
| Copper (filtered) | S19-Oc29256 | CP | % | 97 | | | 70-130 | Pass | |
| Lead (filtered) | S19-Oc29256 | CP | % | 96 | | | 70-130 | Pass | |
| Manganese (filtered) | S19-Oc29256 | CP | % | 54 | | | 70-130 | Fail | Q08 |
| Mercury (filtered) | S19-Oc29256 | CP | % | 82 | | | 70-130 | Pass | |
| Nickel (filtered) | S19-Oc29256 | CP | % | 95 | | | 70-130 | Pass | |
| Zinc (filtered) | S19-Oc29256 | CP | % | 91 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | Result 1 | | | | | |
| Aroclor-1016 | S19-Oc29259 | CP | % | 93 | | | 70-130 | Pass | |
| Aroclor-1260 | S19-Oc29259 | CP | % | 103 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Chloride | S19-Oc29259 | CP | % | 120 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ammonia (as N) | S19-Oc29261 | CP | % | 93 | | | 70-130 | Pass | |
| Nitrate (as N) | S19-Oc29261 | CP | % | 85 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ammonia (as N) | S19-Oc29262 | CP | % | 97 | | | 70-130 | Pass | |
| Nitrate (as N) | S19-Oc29262 | CP | % | 86 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Magnesium | S19-Oc29262 | CP | % | 117 | | | 70-130 | Pass | |
| Sodium | S19-Oc29262 | CP | % | 117 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | S19-Oc29264 | CP | % | 111 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | S19-Oc29266 | CP | % | 96 | | | 70-130 | Pass | |
| Cadmium (filtered) | S19-Oc29266 | CP | % | 101 | | | 70-130 | Pass | |
| Chromium (filtered) | S19-Oc29266 | CP | % | 97 | | | 70-130 | Pass | |
| Copper (filtered) | S19-Oc29266 | CP | % | 99 | | | 70-130 | Pass | |
| Lead (filtered) | S19-Oc29266 | CP | % | 98 | | | 70-130 | Pass | |
| Manganese (filtered) | S19-Oc29266 | CP | % | 67 | | | 70-130 | Fail | Q08 |
| Mercury (filtered) | S19-Oc29266 | CP | % | 61 | | | 70-130 | Fail | Q08 |
| Nickel (filtered) | S19-Oc29266 | CP | % | 98 | | | 70-130 | Pass | |
| Zinc (filtered) | S19-Oc29266 | CP | % | 92 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | S19-Oc29268 | CP | % | 113 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic | S19-Oc27819 | NCP | % | 97 | | | 75-125 | Pass | |
| Cadmium | S19-Oc27819 | NCP | % | 108 | | | 75-125 | Pass | |
| Chromium | S19-Oc27819 | NCP | % | 103 | | | 75-125 | Pass | |
| Copper | S19-Oc27819 | NCP | % | 106 | | | 75-125 | Pass | |
| Lead | S19-Oc27819 | NCP | % | 102 | | | 75-125 | Pass | |
| Mercury | S19-Oc27819 | NCP | % | 102 | | | 70-130 | Pass | |
| Nickel | S19-Oc27819 | NCP | % | 104 | | | 75-125 | Pass | |
| Zinc | S19-Oc27819 | NCP | % | 96 | | | 75-125 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| Naphthalene | B19-Oc35486 | NCP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| TRH C6-C10 | B19-Oc35486 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| TRH >C10-C16 | M19-Oc34459 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 | M19-Oc34459 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 | M19-Oc34459 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | B19-Oc35486 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| TRH C10-C14 | M19-Oc34459 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 | M19-Oc34459 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 | M19-Oc34459 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **BTEX** | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | B19-Oc35486 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Toluene | B19-Oc35486 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Ethylbenzene | B19-Oc35486 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| m&p-Xylenes | B19-Oc35486 | NCP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| o-Xylene | B19-Oc35486 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Xylenes - Total | B19-Oc35486 | NCP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 (after silica gel clean-up) | M19-Oc31729 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | M19-Oc31729 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | M19-Oc31729 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | M19-Oc31729 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C10-C14 (after silica gel clean-up) | M19-Oc31729 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 (after silica gel clean-up) | M19-Oc31729 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 (after silica gel clean-up) | M19-Oc31729 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ferrous Iron - Fe2+ | S19-Oc29253 | CP | mg/L | 1.2 | 1.2 | 4.0 | 30% | Pass | |
| pH (at 25°C) | S19-Oc29253 | CP | pH Units | 7.9 | 7.9 | pass | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | Result 1 | Result 2 | RPD | | | |
| Aroclor-1016 | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1221 | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1232 | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1242 | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1248 | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1254 | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1260 | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Total PCB* | M19-Oc28328 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | S19-Oc29254 | CP | mg/L | 290 | 290 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | S19-Oc29255 | CP | mg/L | 0.04 | 0.05 | 27 | 30% | Pass | |
| Nitrate (as N) | S19-Oc29255 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | S19-Oc29256 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium (filtered) | S19-Oc29256 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | S19-Oc29256 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | S19-Oc29256 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead (filtered) | S19-Oc29256 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | S19-Oc29256 | CP | mg/L | 0.30 | 0.30 | <1 | 30% | Pass | |
| Mercury (filtered) | S19-Oc29256 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | S19-Oc29256 | CP | mg/L | 0.003 | 0.003 | 8.0 | 30% | Pass | |
| Zinc (filtered) | S19-Oc29256 | CP | mg/L | 0.013 | 0.014 | 5.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | S19-Oc29257 | CP | mg/L | 420 | 420 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Acenaphthylene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Anthracene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benz(a)anthracene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Chrysene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluoranthene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluorene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Naphthalene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Phenanthrene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Pyrene | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | S19-Oc29258 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| 4.4'-DDD | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDE | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDT | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| a-BHC | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Aldrin | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| b-BHC | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| d-BHC | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Dieldrin | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan I | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan II | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan sulphate | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin aldehyde | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin ketone | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| g-BHC (Lindane) | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Heptachlor epoxide | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Hexachlorobenzene | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Methoxychlor | S19-Oc29258 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Azinphos-methyl | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Bolstar | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorfenvinphos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorpyrifos | S19-Oc29258 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Chlorpyrifos-methyl | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Coumaphos | S19-Oc29258 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-S | S19-Oc29258 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-O | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Diazinon | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dichlorvos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dimethoate | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Disulfoton | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| EPN | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethoprop | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethyl parathion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenitrothion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fensulfothion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenthion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Malathion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Merphos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Methyl parathion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Mevinphos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Monocrotophos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Naled | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Omethoate | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Phorate | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Pirimiphos-methyl | S19-Oc29258 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Pyrazophos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ronnel | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Terbufos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tetrachlorvinphos | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tokuthion | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Trichloronate | S19-Oc29258 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Chlorophenol | S19-Oc29258 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dichlorophenol | S19-Oc29258 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4.5-Trichlorophenol | S19-Oc29258 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4.6-Trichlorophenol | S19-Oc29258 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.6-Dichlorophenol | S19-Oc29258 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 4-Chloro-3-methylphenol | S19-Oc29258 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Pentachlorophenol | S19-Oc29258 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Tetrachlorophenols - Total | S19-Oc29258 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | S19-Oc29258 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 2-Methyl-4.6-dinitrophenol | S19-Oc29258 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 2-Methylphenol (o-Cresol) | S19-Oc29258 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2-Nitrophenol | S19-Oc29258 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4-Dimethylphenol | S19-Oc29258 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dinitrophenol | S19-Oc29258 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | S19-Oc29258 | CP | mg/L | < 0.006 | < 0.006 | <1 | 30% | Pass | |
| 4-Nitrophenol | S19-Oc29258 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| Dinoseb | S19-Oc29258 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Phenol | S19-Oc29258 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| pH (at 25°C) | S19-Oc29259 | CP | pH Units | 7.8 | 7.7 | pass | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | Result 2 | RPD | | | |
| Bicarbonate Alkalinity (as CaCO3) | S19-Oc29259 | CP | mg/L | 92 | 98 | 6.0 | 30% | Pass | |
| Carbonate Alkalinity (as CaCO3) | S19-Oc29259 | CP | mg/L | < 10 | < 10 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Chloride | S19-Oc29260 | CP | mg/L | 39 | 43 | 10 | 30% | Pass | |
| Cyanide (total) | S19-Oc29260 | CP | mg/L | < 0.005 | < 0.005 | <1 | 30% | Pass | |
| Sulphate (as SO4) | S19-Oc29260 | CP | mg/L | 26 | 28 | 7.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | S19-Oc29261 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Ferrous Iron - Fe2+ | S19-Oc29261 | CP | mg/L | 0.06 | 0.06 | 6.0 | 30% | Pass | |
| Nitrate (as N) | S19-Oc29261 | CP | mg/L | 2.4 | 2.4 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | S19-Oc29262 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Nitrate (as N) | S19-Oc29262 | CP | mg/L | 3.0 | 3.0 | 1.0 | 30% | Pass | |
| pH (at 25°C) | S19-Oc29262 | CP | pH Units | 6.3 | 6.4 | pass | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | Result 2 | RPD | | | |
| Bicarbonate Alkalinity (as CaCO3) | S19-Oc29262 | CP | mg/L | 23 | 23 | 1.0 | 30% | Pass | |
| Carbonate Alkalinity (as CaCO3) | S19-Oc29262 | CP | mg/L | < 10 | < 10 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | S19-Oc29262 | CP | mg/L | 2.8 | 2.8 | 2.0 | 30% | Pass | |
| Magnesium | S19-Oc29262 | CP | mg/L | 5.3 | 5.3 | <1 | 30% | Pass | |
| Potassium | S19-Oc29262 | CP | mg/L | 3.5 | 3.5 | <1 | 30% | Pass | |
| Sodium | S19-Oc29262 | CP | mg/L | 19 | 19 | 1.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | S19-Oc29265 | CP | mg/L | 280 | 270 | 3.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | S19-Oc29266 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium (filtered) | S19-Oc29266 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | S19-Oc29266 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | S19-Oc29266 | CP | mg/L | 0.003 | 0.003 | 1.0 | 30% | Pass | |
| Lead (filtered) | S19-Oc29266 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | S19-Oc29266 | CP | mg/L | 0.23 | 0.23 | 2.0 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Mercury (filtered) | S19-Oc29266 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | S19-Oc29266 | CP | mg/L | 0.003 | 0.003 | 3.0 | 30% | Pass | |
| Zinc (filtered) | S19-Oc29266 | CP | mg/L | 0.011 | 0.012 | 8.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | S19-Oc29268 | CP | mg/L | 0.009 | 0.013 | 31 | 30% | Fail | Q15 |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | S19-Oc27819 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium | S19-Oc27819 | NCP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium | S19-Oc27819 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper | S19-Oc27819 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead | S19-Oc27819 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Mercury | S19-Oc27819 | NCP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel | S19-Oc27819 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Zinc | S19-Oc27819 | NCP | mg/L | < 0.005 | < 0.005 | <1 | 30% | Pass | |

## Comments

### Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

### Qualifier Codes/Comments

| Code | Description |
|---|---|
| N01 | F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). |
| N02 | Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid. |
| N04 | F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. |
| N07 | Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs |
| Q08 | The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference. |
| Q15 | The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report. |
| R20 | This sample is a Trip Spike and therefore all results are reported as a percentage |

## Authorised By

| | |
|---|---|
| Alena Bounkeua | Analytical Services Manager |
| Emily Rosenberg | Senior Analyst-Metal (VIC) |
| Harry Bacalis | Senior Analyst-Volatile (VIC) |
| Joseph Edouard | Senior Analyst-Organic (VIC) |
| Julie Kay | Senior Analyst-Inorganic (VIC) |



**Glenn Jackson**
**General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Email: enquiries.melb@mgtlabmark.com.au

# CHAIN OF CUSTODY RECORD



**CLIENT DETAILS**

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2019 |
| | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide | Ammonia | Major Anions and Cations | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (B7) | Ferrous Iron | Manganese | pH | TDS | TSS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CSM_BH02 | 13/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 2 | CSM_BH04 | 13/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 3 | CSM_BH06 | 13/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 4 | CSM_BH08 | 13/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 5 | CSM_BH09S | 14/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 6 | CSM_BH10S | 14/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 7 | SRT_BH047 | 15/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 8 | SRT_BH052 | 15/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 9 | SRT_BH059 | 15/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 10 | ~~SRT_BH063~~ | | ~~Water~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ |
| 11 | SRT_CBH015 | 15/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 12 | SRT_CBH017 | 15/11/19 | Water | X | X | X | X | X | X | | | | X | X | X | X | X |
| 13 | GASW_BH7 | 14/11/19 | Water | X | | X | X | X | X | | | | X | X | X | X | X |
| 14 | GASW_BH10 | 13/11/19 | Water | X | | X | X | X | X | | | | X | X | X | X | X |
| 15 | GASW_BH11 | 14/11/19 | Water | X | | X | X | X | X | | | | X | X | X | X | X |
| 16 | GASW_BH23 | 14/11/19 | Water | X | | X | X | X | X | | | | X | X | X | X | X |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Containers:**

| 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag | Sample comments: |
|---|---|---|---|---|---|---|---|---|
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |
| 1 | | 4 | | 2 | 2 | | | |

**Laboratory Staff**

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 15/11/19
**Signature:**

**Received By:** Lupan
**Date & Time :** 15/11 5:19 PM
**Signature:**

**Turn around time**

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

**Method Of Shipment**

☐ Courier
☑ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:** 5.2°C

**Report number:** 688512



Cartons
EF

eurofins | mgt

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# CHAIN OF CUSTODY RECORD



**CLIENT DETAILS**

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2019 |
| | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

**Analytes**

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide | Ammonia | Major Anions and Cations | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (B7) | Ferrous Iron | Manganese | pH | TDS | TSS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GASW_BH25a | 14/11/19 | Water | X | | X | X | X | X | | | | X | X | X | X | X |
| 2 | ~~QC01~~ | | ~~Water~~ | PLEASE SEND TO ALS WITH ATTACHED COC | | | | | | | | | | | | | |
| 3 | QC02 | 14/11/19 | Water | | | | | | | | | X | | | | | |
| 4 | RB01 | 14/11/19 | Water | | | | | | | | X | | | | | | |
| 6 | Trip Blank | 13/11/19 | Water | | | | | | | X | | | | | | | |
| 6 | Trip Spike | 13/11/19 | Water | | | | | | | X | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Containers:**

| 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag |
|---|---|---|---|---|---|---|---|
| 1 | | 4 | | 2 | 2 | | |
| ~~4~~ | | ~~4~~ | | ~~8~~ | ~~8~~ | | |
| 1 | | 4 | | 2 | 2 | | |
| | | 1 | | | | | |
| | | | | 2 | | | |
| | | | | 2 | | | |

**Sample comments:**

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 15/11/19
**Signature:**

**Laboratory Staff**
**Received By:** Rupen
**Date & Time :** 15/11/19
**Signature:**

**Turn around time**
1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

**Method Of Shipment**
☐ Courier
☑ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:**

**Report number:** 688512



Cathena
EF

eurofins | Environment Testing

**Melbourne**
6 Monterey Road
Dandenong South Vic 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

**Sydney**
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Lane Cove West NSW 2066
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NATA # 1261 Site # 18217

**Brisbane**
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NATA # 1261 Site # 20794

**Perth**
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

| | |
|---|---|
| Company name: | **GHD Pty Ltd NSW** |
| Contact name: | Henry Luo |
| Project name: | CENTRAL |
| Project ID: | 21-27234 |
| COC number: | Not provided |
| Turn around time: | 5 Day |
| Date/Time received: | Nov 15, 2019 5:19 PM |
| Eurofins reference: | **688512** |

## Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 5.2 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

## Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Henry Luo - henry.luo@ghd.com.

**GHD Pty Ltd NSW**
**Level 15, 133 Castlereagh Street**
**Sydney**
**NSW 2000**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 1254**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Henry Luo**

**Report** **688512-W**
Project name CENTRAL
Project ID 21-27234
Received Date Nov 15, 2019

| **Client Sample ID** | | | **CSM_BH02** | **CSM_BH04** | **CSM_BH06** | **CSM_BH08** |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** | **Water** | **Water** |
| **Eurofins Sample No.** | | | **M19-No23440** | **M19-No23441** | **M19-No23442** | **M19-No23443** |
| **Date Sampled** | | | **Nov 13, 2019** | **Nov 13, 2019** | **Nov 13, 2019** | **Nov 13, 2019** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 91 | 100 | 99 | 103 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23440 | M19-No23441 | M19-No23442 | M19-No23443 |
| Date Sampled | | | Nov 13, 2019 | Nov 13, 2019 | Nov 13, 2019 | Nov 13, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 89 | 72 | 63 | 54 |
| p-Terphenyl-d14 (surr.) | 1 | % | 84 | 81 | 73 | 60 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 84 | 63 | 96 | 95 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 73 | 77 | 59 | 50 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23440 | M19-No23441 | M19-No23442 | M19-No23443 |
| Date Sampled | | | Nov 13, 2019 | Nov 13, 2019 | Nov 13, 2019 | Nov 13, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 64 | 97 | 81 | 70 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 84 | 63 | 96 | 95 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 73 | 77 | 59 | 50 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23440 | M19-No23441 | M19-No23442 | M19-No23443 |
| Date Sampled | | | Nov 13, 2019 | Nov 13, 2019 | Nov 13, 2019 | Nov 13, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (non-Halogenated)** | | | | | | |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 77 | 30 | 48 | 44 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.02 | 0.09 | 0.03 | 0.01 |
| Chloride | 1 | mg/L | 520 | 71 | 210 | 100 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 1.8 | 2.8 | 2.7 | 5.7 |
| Nitrate (as N) | 0.02 | mg/L | 0.03 | < 0.02 | < 0.02 | 0.03 |
| pH (at 25°C) | 0.1 | pH Units | 7.9 | 8.0 | 7.4 | 7.5 |
| Sulphate (as SO4) | 5 | mg/L | 29 | 39 | 26 | 43 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 620 | 410 | 570 | 310 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 4600 | 350 | 66 | 5.9 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 330 | 270 | 200 | 100 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 50 | 6.9 | 43 | 11 |
| Magnesium | 0.5 | mg/L | 42 | 12 | 35 | 15 |
| Potassium | 0.5 | mg/L | 5.5 | 4.2 | 5.1 | 3.5 |
| Sodium | 0.5 | mg/L | 120 | 140 | 100 | 77 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.013 | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.29 | 0.33 | 0.33 | 0.29 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.025 | 0.010 | 0.053 | 0.007 |
| Zinc (filtered) | 0.005 | mg/L | 0.010 | < 0.005 | 0.024 | < 0.005 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23444 | M19-No23445 | M19-No23446 | M19-No23447 |
| Date Sampled | | | Nov 14, 2019 | Nov 14, 2019 | Nov 15, 2019 | Nov 15, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | 0.40 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | 0.4 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.4 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | 0.35 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.35 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 87 | 100 | 88 | 92 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 61 | 65 | 86 | 70 |
| p-Terphenyl-d14 (surr.) | 1 | % | 74 | 74 | 99 | 50 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23444 | M19-No23445 | M19-No23446 | M19-No23447 |
| Date Sampled | | | Nov 14, 2019 | Nov 14, 2019 | Nov 15, 2019 | Nov 15, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 103 | 83 | 111 | 86 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 69 | 51 | 81 | 66 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23444 | M19-No23445 | M19-No23446 | M19-No23447 |
| Date Sampled | | | Nov 14, 2019 | Nov 14, 2019 | Nov 15, 2019 | Nov 15, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 77 | 60 | 98 | 66 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 103 | 83 | 111 | 86 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 69 | 51 | 81 | 66 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 50 | 37 | 63 | 37 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23444 | M19-No23445 | M19-No23446 | M19-No23447 |
| Date Sampled | | | Nov 14, 2019 | Nov 14, 2019 | Nov 15, 2019 | Nov 15, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.03 | < 0.01 | < 0.01 | < 0.01 |
| Chloride | 1 | mg/L | 65 | 45 | 52 | 49 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 6.5 | < 0.05 | < 0.05 | < 0.05 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | 1.1 | 21 | 6.9 |
| pH (at 25°C) | 0.1 | pH Units | 7.0 | 6.2 | 8.3 | 7.6 |
| Sulphate (as SO4) | 5 | mg/L | 180 | 56 | 9.5 | 31 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 400 | 170 | 330 | 240 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 55 | 69 | 89 | 64 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 55 | < 20 | 120 | 78 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 5.5 | 3.4 | 54 | 23 |
| Magnesium | 0.5 | mg/L | 8.4 | 5.1 | 8.8 | 4.5 |
| Potassium | 0.5 | mg/L | 3.4 | 2.3 | 1.0 | 1.5 |
| Sodium | 0.5 | mg/L | 110 | 35 | 32 | 43 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | 0.002 | 0.018 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.002 |
| Manganese (filtered) | 0.005 | mg/L | 0.88 | 0.47 | < 0.005 | < 0.005 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.008 | 0.002 | 0.001 | 0.006 |
| Zinc (filtered) | 0.005 | mg/L | 0.041 | < 0.005 | < 0.005 | 0.035 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23448 | M19-No23449 | M19-No23450 | M19-No23451 |
| Date Sampled | | | Nov 15, 2019 | Nov 15, 2019 | Nov 15, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.26 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.12 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | 0.54 | < 0.05 | 0.30 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | 0.54 | < 0.05 | 0.3 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.54 | < 0.1 | 0.3 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23448 | M19-No23449 | M19-No23450 | M19-No23451 |
| Date Sampled | | | Nov 15, 2019 | Nov 15, 2019 | Nov 15, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.21 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | 0.49 | < 0.05 | 0.25 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.49 | < 0.1 | 0.25 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.13 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.008 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | 0.003 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.002 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.004 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 86 | 99 | 94 | 98 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 93 | 82 | 64 | 66 |
| p-Terphenyl-d14 (surr.) | 1 | % | 74 | 57 | 88 | 68 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23448 | M19-No23449 | M19-No23450 | M19-No23451 |
| Date Sampled | | | Nov 15, 2019 | Nov 15, 2019 | Nov 15, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 87 | 64 | 104 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 56 | 90 | 71 | - |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Triphenylphosphate (surr.) | 1 | % | 61 | 91 | 73 | - |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23448 | M19-No23449 | M19-No23450 | M19-No23451 |
| Date Sampled | | | Nov 15, 2019 | Nov 15, 2019 | Nov 15, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 87 | 64 | 104 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 56 | 90 | 71 | - |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 46 | 39 | 56 | 52 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | < 0.01 | 0.02 | < 0.01 | 0.02 |
| Chloride | 1 | mg/L | 43 | 64 | 50 | 28 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | < 0.05 | < 0.05 | 0.07 | 16 |
| Nitrate (as N) | 0.02 | mg/L | 2.1 | 2.8 | 0.19 | 0.04 |
| pH (at 25°C) | 0.1 | pH Units | 8.0 | 6.3 | 7.2 | 4.0 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23448 | M19-No23449 | M19-No23450 | M19-No23451 |
| Date Sampled | | | Nov 15, 2019 | Nov 15, 2019 | Nov 15, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| | | | | | | |
| Sulphate (as SO4) | 5 | mg/L | 14 | 41 | 30 | 150 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 270 | 140 | 150 | 280 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 3.6 | 2.9 | 5.1 | 8.3 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 180 | 22 | 77 | < 20 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 61 | 3.1 | 14 | 2.7 |
| Magnesium | 0.5 | mg/L | 8.2 | 5.6 | 11 | 4.2 |
| Potassium | 0.5 | mg/L | 6.1 | 3.5 | 3.6 | 0.6 |
| Sodium | 0.5 | mg/L | 11 | 19 | 24 | 65 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | 0.001 | < 0.001 | 0.003 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.002 |
| Manganese (filtered) | 0.005 | mg/L | < 0.005 | 6.3 | 1.3 | 0.098 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | < 0.001 | 0.010 | 0.005 | 0.002 |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | 0.022 | 0.008 | 0.036 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | R16GASW_BH23 | R16GASW_BH25A |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23452 | M19-No23453 | M19-No23454 | M19-No23455 |
| Date Sampled | | | Nov 13, 2019 | Nov 14, 2019 | Nov 14, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.5 | < 0.5 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | 6.7 | 6.1 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | 3.2 | 3.0 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | 0.21 | 0.32 | 0.31 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | 0.21 | < 0.5 | < 0.5 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.21 | 0.32 | 0.31 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | 5.6 | 5.1 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | 0.18 | 0.31 | 0.25 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.18 | 0.31 | 0.25 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 0.008 | 3.2 | 2.2 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.26 | 0.87 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.05 | < 0.05 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.1 | < 0.1 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | R16GASW_BH23 | R16GASW_BH25A |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23452 | M19-No23453 | M19-No23454 | M19-No23455 |
| Date Sampled | | | Nov 13, 2019 | Nov 14, 2019 | Nov 14, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **BTEX** | | | | | | |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.05 | < 0.05 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.15 | < 0.15 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 95 | 89 | 115 | 104 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.002 | 0.001 |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.007 | 0.003 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PAH* | 0.001 | mg/L | < 0.001 | < 0.001 | 0.011 | 0.004 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 79 | 71 | 85 | 53 |
| p-Terphenyl-d14 (surr.) | 1 | % | 75 | 70 | 85 | 76 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | 0.006 | 0.042 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.004 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | 0.007 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | 0.067 | 0.053 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.106 |
| Phenol-d6 (surr.) | 1 | % | 61 | 53 | 78 | 39 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | R16GASW_BH23 | R16GASW_BH25A |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23452 | M19-No23453 | M19-No23454 | M19-No23455 |
| Date Sampled | | | Nov 13, 2019 | Nov 14, 2019 | Nov 14, 2019 | Nov 14, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.14 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.15 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.15 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | < 0.01 | 0.02 | 0.66 | 0.46 |
| Chloride | 1 | mg/L | 730 | 97 | 33 | 85 |
| Cyanide (total) | 0.005 | mg/L | < 0.005 | < 0.005 | 0.026 | 0.032 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 11 | 1.9 | 7.8 | 0.35 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 7.1 | 6.5 | 8.1 | 8.3 |
| Sulphate (as SO4) | 5 | mg/L | < 5 | 51 | 320 | 180 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 930 | 170 | 710 | 410 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 200 | 1600 | 23 | 53 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 440 | 53 | 210 | 120 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 82 | 5.0 | 170 | 86 |
| Magnesium | 0.5 | mg/L | 58 | 7.0 | 14 | 5.5 |
| Potassium | 0.5 | mg/L | 15 | 1.9 | 19 | 6.8 |
| Sodium | 0.5 | mg/L | 150 | 50 | 48 | 31 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.004 | 0.006 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | 0.001 | < 0.001 | 0.008 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.49 | 0.20 | 0.33 | 0.11 |
| Mercury (filtered) | 0.0001 | mg/L | 0.0002 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.018 | 0.002 | < 0.001 | 0.008 |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | 0.012 | < 0.005 | 0.026 |

| Client Sample ID | | | QC02 | RB01 | TRIP BLANK | [R20]TRIP SPIKE |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23456 | M19-No23457 | M19-No23458 | M19-No23459 |
| Date Sampled | | | Nov 14, 2019 | Nov 14, 2019 | Nov 13, 2019 | Nov 13, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | - | < 0.01 | 93 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | - | < 0.02 | 100 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | - | < 0.02 | - |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | - | - | - |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | - | < 0.02 | 98 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | - | - | - |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 100 |
| Toluene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 110 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 110 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | - | < 0.002 | 120 |
| o-Xylene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 120 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | - | < 0.003 | 120 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 86 | - | 71 | 104 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | - | - | - |
| Anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Chrysene | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Fluoranthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Fluorene | 0.001 | mg/L | < 0.001 | - | - | - |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Naphthalene | 0.001 | mg/L | < 0.001 | - | - | - |
| Phenanthrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Total PAH* | 0.001 | mg/L | < 0.001 | - | - | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | 59 | - | - | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 57 | - | - | - |
| **Heavy Metals** | | | | | | |
| Arsenic | 0.001 | mg/L | - | < 0.001 | - | - |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Cadmium | 0.0002 | mg/L | - | < 0.0002 | - | - |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | - | - | - |
| Chromium | 0.001 | mg/L | - | < 0.001 | - | - |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |

| Client Sample ID | | | QC02 | RB01 | TRIP BLANK | [R20]TRIP SPIKE |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M19-No23456 | M19-No23457 | M19-No23458 | M19-No23459 |
| Date Sampled | | | Nov 14, 2019 | Nov 14, 2019 | Nov 13, 2019 | Nov 13, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Heavy Metals** | | | | | | |
| Copper | 0.001 | mg/L | - | < 0.001 | - | - |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Lead | 0.001 | mg/L | - | < 0.001 | - | - |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Mercury | 0.0001 | mg/L | - | < 0.0001 | - | - |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Nickel | 0.001 | mg/L | - | < 0.001 | - | - |
| Nickel (filtered) | 0.001 | mg/L | 0.002 | - | - | - |
| Zinc | 0.005 | mg/L | - | < 0.005 | - | - |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | - | - | - |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Melbourne | Nov 19, 2019 | 14 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Eurofins \| mgt Suite B7A (filtered metals) | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Nov 19, 2019 | |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Polycyclic Aromatic Hydrocarbons | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (Halogenated) | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (non-Halogenated) | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Metals M8 filtered | Melbourne | Nov 19, 2019 | 28 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Eurofins \| mgt Suite B15 | | | |
| Organochlorine Pesticides | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) | | | |
| Organophosphorus Pesticides | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081) | | | |
| Polychlorinated Biphenyls | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082) | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A | | | |
| Eurofins \| mgt Suite B11 | | | |
| Ammonia (as N) | Melbourne | Nov 19, 2019 | 28 Days |
| - Method: LTM-INO-4200 Ammonia by Discrete Analyser | | | |
| Chloride | Melbourne | Nov 19, 2019 | 28 Days |
| - Method: LTM-INO-4090 Chloride by Discrete Analyser | | | |
| Nitrate (as N) | Melbourne | Nov 19, 2019 | 28 Days |
| - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | | | |
| Sulphate (as SO4) | Melbourne | Nov 19, 2019 | 28 Days |
| - Method: LTM-INO-4110 Sulfate by Discrete Analyser | | | |
| Alkalinity (speciated) | Melbourne | Nov 19, 2019 | 14 Days |
| - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | | | |
| Alkali Metals | Melbourne | Nov 19, 2019 | 180 Days |
| - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES | | | |
| Cyanide (total) | Melbourne | Nov 19, 2019 | 14 Days |
| - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA | | | |
| Ferrous Iron - Fe2+ | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser | | | |
| pH (at 25°C) | Melbourne | Nov 19, 2019 | 0 Hours |
| - Method: LTM-GEN-7090 pH in water by ISE | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | Melbourne | Nov 19, 2019 | 7 Days |

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| - Method: LTM-INO-4170 Total Dissolved Solids in Water | | | |
| Total Suspended Solids Dried at 103–105°C | Melbourne | Nov 19, 2019 | 7 Days |
| - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | | | |
| Metals M8 | Melbourne | Nov 19, 2019 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Heavy Metals (filtered) | Melbourne | Nov 19, 2019 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |

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NATA # 1261
Site # 23736

**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:**
**Report #:** 688512
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Nov 15, 2019 5:19 PM
**Due:** Nov 22, 2019
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Eurofins \| mgt Suite B15 | Eurofins \| mgt Suite B11 | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B7A (filtered metals) | BTEXN and Volatile TRH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | |
| **External Laboratory** | | | | | | | | | | | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | | | | | | | | | | | |
| 1 | CSM_BH02 | Nov 13, 2019 | | Water | M19-No23440 | X | X | X | X | X | X | | X | X | X | | X | |
| 2 | CSM_BH04 | Nov 13, 2019 | | Water | M19-No23441 | X | X | X | X | X | X | | X | X | X | | X | |
| 3 | CSM_BH06 | Nov 13, 2019 | | Water | M19-No23442 | X | X | X | X | X | X | | X | X | X | | X | |
| 4 | CSM_BH08 | Nov 13, 2019 | | Water | M19-No23443 | X | X | X | X | X | X | | X | X | X | | X | |
| 5 | CSM_BH09S | Nov 14, 2019 | | Water | M19-No23444 | X | X | X | X | X | X | | X | X | X | | X | |
| 6 | CSM_BH10S | Nov 14, 2019 | | Water | M19-No23445 | X | X | X | X | X | X | | X | X | X | | X | |
| 7 | SRT_BH047 | Nov 15, 2019 | | Water | M19-No23446 | X | X | X | X | X | X | | X | X | X | | X | |
| 8 | SRT_BH052 | Nov 15, 2019 | | Water | M19-No23447 | X | X | X | X | X | X | | X | X | X | | X | |
| 9 | SRT_BH059 | Nov 15, 2019 | | Water | M19-No23448 | X | X | X | X | X | X | | X | X | X | | X | |

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**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Eurofins \| mgt Suite B15 | Eurofins \| mgt Suite B11 | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B7A (filtered metals) | BTEXN and Volatile TRH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | |
| 10 | SRT_CBH015 | Nov 15, 2019 | | Water | M19-No23449 | X | X | X | X | X | X | | X | X | X | | X | |
| 11 | SRT_CBH017 | Nov 15, 2019 | | Water | M19-No23450 | X | X | X | X | X | X | | X | X | X | | X | |
| 12 | GASW_BH7 | Nov 14, 2019 | | Water | M19-No23451 | X | X | X | X | X | X | | | X | X | | X | |
| 13 | GASW_BH10 | Nov 13, 2019 | | Water | M19-No23452 | X | X | X | X | X | X | | | X | X | | X | |
| 14 | GASW_BH11 | Nov 14, 2019 | | Water | M19-No23453 | X | X | X | X | X | X | | | X | X | | X | |
| 15 | GASW_BH23 | Nov 14, 2019 | | Water | M19-No23454 | X | X | X | X | X | X | | | X | X | | X | |
| 16 | GASW_BH25A | Nov 14, 2019 | | Water | M19-No23455 | X | X | X | X | X | X | | | X | X | | X | |
| 17 | QC02 | Nov 14, 2019 | | Water | M19-No23456 | | | | | | | | | | | X | | |
| 18 | RB01 | Nov 14, 2019 | | Water | M19-No23457 | | | | | | | X | | | | | | |
| 19 | TRIP BLANK | Nov 13, 2019 | | Water | M19-No23458 | | | | | | | | | | | | | X |
| 20 | TRIP SPIKE | Nov 13, 2019 | | Water | M19-No23459 | | | | | | | | | | | | | X |

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**Received:** Nov 15, 2019 5:19 PM
**Due:** Nov 22, 2019
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Eurofins \| mgt Suite B15 | Eurofins \| mgt Suite B11 | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B7A (filtered metals) | BTEXN and Volatile TRH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | |
| **Test Counts** | 16 | 16 | 16 | 16 | 16 | 16 | 1 | 11 | 16 | 16 | 1 | 16 | 2 |

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## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

**ppm:** Parts per million | **ppb:** Parts per billion | **%:** Percentage

**org/100mL:** Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery. |
| **CRM** | Certified Reference Material - reported as percent recovery. |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **QSM** | US Department of Defense Quality Systems Manual Version 5.3 |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within. |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH >C10-C16 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C10-C14 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Toluene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Ethylbenzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| m&p-Xylenes | mg/L | < 0.002 | | | 0.002 | Pass | |
| o-Xylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Xylenes - Total | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | |
| Acenaphthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Acenaphthylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benz(a)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(g.h.i)perylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chrysene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Dibenz(a.h)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluorene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Naphthalene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Phenanthrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | mg/L | < 0.001 | | | 0.001 | Pass | |
| 4.4'-DDD | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDE | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDT | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan I | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | | | 0.0001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Endosulfan sulphate | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.01 | | | 0.01 | Pass | |
| **Method Blank** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Azinphos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Bolstar | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorfenvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorpyrifos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Chlorpyrifos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Coumaphos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-S | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-O | mg/L | < 0.002 | | | 0.002 | Pass | |
| Diazinon | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dichlorvos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dimethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Disulfoton | mg/L | < 0.002 | | | 0.002 | Pass | |
| EPN | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethoprop | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenitrothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fensulfothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Malathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Merphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Methyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Mevinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Monocrotophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Naled | mg/L | < 0.002 | | | 0.002 | Pass | |
| Omethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Phorate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Pirimiphos-methyl | mg/L | < 0.02 | | | 0.02 | Pass | |
| Pyrazophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ronnel | mg/L | < 0.002 | | | 0.002 | Pass | |
| Terbufos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tetrachlorvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tokuthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Trichloronate | mg/L | < 0.002 | | | 0.002 | Pass | |
| **Method Blank** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1016 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1242 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1248 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1254 | mg/L | < 0.001 | | | 0.001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Aroclor-1260 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Total PCB* | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4.5-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4.6-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.6-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 4-Chloro-3-methylphenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Pentachlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Tetrachlorophenols - Total | mg/L | < 0.03 | | | 0.03 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | mg/L | < 0.1 | | | 0.1 | Pass | |
| 2-Methyl-4.6-dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 2-Methylphenol (o-Cresol) | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2-Nitrophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4-Dimethylphenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | mg/L | < 0.006 | | | 0.006 | Pass | |
| 4-Nitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| Dinoseb | mg/L | < 0.1 | | | 0.1 | Pass | |
| Phenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Chloride | mg/L | < 1 | | | 1 | Pass | |
| Cyanide (total) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Ferrous Iron - Fe2+ | mg/L | < 0.05 | | | 0.05 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Sulphate (as SO4) | mg/L | < 5 | | | 5 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | mg/L | < 10 | | | 10 | Pass | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 1 | | | 1 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | mg/L | < 20 | | | 20 | Pass | |
| Carbonate Alkalinity (as CaCO3) | mg/L | < 10 | | | 10 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Magnesium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Potassium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Sodium | mg/L | < 0.5 | | | 0.5 | Pass | |
| **Method Blank** | | | | | | | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Heavy Metals** | | | | | | | |
| Arsenic | mg/L | < 0.001 | | | 0.001 | Pass | |
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Cadmium | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Mercury | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Mercury (filtered) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Nickel | mg/L | < 0.001 | | | 0.001 | Pass | |
| Nickel (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Zinc | mg/L | < 0.005 | | | 0.005 | Pass | |
| Zinc (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | % | 88 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 116 | | | 70-130 | Pass | |
| TRH >C10-C16 | % | 85 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | % | 113 | | | 70-130 | Pass | |
| TRH C10-C14 | % | 90 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | % | 100 | | | 70-130 | Pass | |
| Toluene | % | 109 | | | 70-130 | Pass | |
| Ethylbenzene | % | 115 | | | 70-130 | Pass | |
| m&p-Xylenes | % | 120 | | | 70-130 | Pass | |
| Xylenes - Total | % | 119 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | |
| Acenaphthene | % | 99 | | | 70-130 | Pass | |
| Acenaphthylene | % | 101 | | | 70-130 | Pass | |
| Anthracene | % | 97 | | | 70-130 | Pass | |
| Benz(a)anthracene | % | 95 | | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 90 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 85 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | % | 80 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 104 | | | 70-130 | Pass | |
| Chrysene | % | 72 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | % | 77 | | | 70-130 | Pass | |
| Fluoranthene | % | 87 | | | 70-130 | Pass | |
| Fluorene | % | 87 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | % | 85 | | | 70-130 | Pass | |
| Naphthalene | % | 87 | | | 70-130 | Pass | |
| Phenanthrene | % | 96 | | | 70-130 | Pass | |
| Pyrene | % | 85 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Chlordanes - Total | % | 116 | | | 70-130 | Pass | |
| 4.4'-DDD | % | 91 | | | 70-130 | Pass | |
| 4.4'-DDE | % | 115 | | | 70-130 | Pass | |
| 4.4'-DDT | % | 86 | | | 70-130 | Pass | |
| a-BHC | % | 104 | | | 70-130 | Pass | |
| Aldrin | % | 89 | | | 70-130 | Pass | |
| b-BHC | % | 86 | | | 70-130 | Pass | |
| d-BHC | % | 81 | | | 70-130 | Pass | |
| Dieldrin | % | 100 | | | 70-130 | Pass | |
| Endosulfan I | % | 114 | | | 70-130 | Pass | |
| Endosulfan II | % | 90 | | | 70-130 | Pass | |
| Endosulfan sulphate | % | 71 | | | 70-130 | Pass | |
| Endrin | % | 89 | | | 70-130 | Pass | |
| Endrin aldehyde | % | 80 | | | 70-130 | Pass | |
| Endrin ketone | % | 105 | | | 70-130 | Pass | |
| g-BHC (Lindane) | % | 113 | | | 70-130 | Pass | |
| Heptachlor | % | 95 | | | 70-130 | Pass | |
| Heptachlor epoxide | % | 99 | | | 70-130 | Pass | |
| Hexachlorobenzene | % | 123 | | | 70-130 | Pass | |
| Methoxychlor | % | 86 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Diazinon | % | 86 | | | 70-130 | Pass | |
| Dimethoate | % | 86 | | | 70-130 | Pass | |
| Ethion | % | 87 | | | 70-130 | Pass | |
| Fenitrothion | % | 95 | | | 70-130 | Pass | |
| Methyl parathion | % | 92 | | | 70-130 | Pass | |
| Mevinphos | % | 72 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1260 | % | 82 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | % | 79 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | % | 86 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | % | 105 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | % | 90 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | % | 92 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | % | 81 | | | 30-130 | Pass | |
| Pentachlorophenol | % | 82 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | % | 64 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | % | 99 | | | 30-130 | Pass | |
| 2-Methyl-4.6-dinitrophenol | % | 81 | | | 30-130 | Pass | |
| 2-Methylphenol (o-Cresol) | % | 65 | | | 30-130 | Pass | |
| 2-Nitrophenol | % | 83 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | % | 122 | | | 30-130 | Pass | |
| 2.4-Dinitrophenol | % | 72 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | % | 64 | | | 30-130 | Pass | |
| Dinoseb | % | 86 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | % | 85 | | | 70-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **LCS - % Recovery** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | % | 90 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| Ammonia (as N) | % | 100 | | | 70-130 | Pass | |
| Chloride | % | 113 | | | 70-130 | Pass | |
| Cyanide (total) | % | 95 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | % | 101 | | | 70-130 | Pass | |
| Nitrate (as N) | % | 101 | | | 70-130 | Pass | |
| Sulphate (as SO4) | % | 103 | | | 70-130 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | % | 104 | | | 70-130 | Pass | |
| Total Suspended Solids Dried at 103–105°C | % | 97 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Carbonate Alkalinity (as CaCO3) | % | 75 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | % | 102 | | | 70-130 | Pass | |
| Magnesium | % | 96 | | | 70-130 | Pass | |
| Potassium | % | 98 | | | 70-130 | Pass | |
| Sodium | % | 92 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | % | 103 | | | 80-120 | Pass | |
| Cadmium | % | 103 | | | 80-120 | Pass | |
| Chromium | % | 101 | | | 80-120 | Pass | |
| Copper | % | 112 | | | 80-120 | Pass | |
| Lead | % | 106 | | | 80-120 | Pass | |
| Mercury | % | 98 | | | 75-125 | Pass | |
| Nickel | % | 99 | | | 80-120 | Pass | |
| Zinc | % | 115 | | | 80-120 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| Naphthalene | M19-No24653 | NCP | % | 86 | | | 70-130 | Pass | |
| TRH C6-C10 | M19-No24653 | NCP | % | 123 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C6-C9 | M19-No24653 | NCP | % | 120 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **BTEX** | | | | Result 1 | | | | | |
| Benzene | M19-No24653 | NCP | % | 101 | | | 70-130 | Pass | |
| Toluene | M19-No24653 | NCP | % | 109 | | | 70-130 | Pass | |
| Ethylbenzene | M19-No24653 | NCP | % | 116 | | | 70-130 | Pass | |
| m&p-Xylenes | M19-No24653 | NCP | % | 121 | | | 70-130 | Pass | |
| o-Xylene | M19-No24653 | NCP | % | 119 | | | 70-130 | Pass | |
| Xylenes - Total | M19-No24653 | NCP | % | 120 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | Result 1 | | | | | |
| Acenaphthene | M19-No23390 | NCP | % | 90 | | | 70-130 | Pass | |
| Acenaphthylene | M19-No23390 | NCP | % | 97 | | | 70-130 | Pass | |
| Anthracene | M19-No23390 | NCP | % | 86 | | | 70-130 | Pass | |
| Benz(a)anthracene | M19-No23390 | NCP | % | 82 | | | 70-130 | Pass | |
| Benzo(a)pyrene | M19-No23390 | NCP | % | 82 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| Benzo(b&j)fluoranthene | M19-No23390 | NCP | % | 71 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | M19-No23390 | NCP | % | 74 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | M19-No23390 | NCP | % | 105 | | | 70-130 | Pass | |
| Chrysene | M19-No23390 | NCP | % | 84 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | M19-No23390 | NCP | % | 77 | | | 70-130 | Pass | |
| Fluoranthene | M19-No23390 | NCP | % | 99 | | | 70-130 | Pass | |
| Fluorene | M19-No23390 | NCP | % | 99 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | M19-No23390 | NCP | % | 83 | | | 70-130 | Pass | |
| Naphthalene | M19-No23390 | NCP | % | 79 | | | 70-130 | Pass | |
| Phenanthrene | M19-No23390 | NCP | % | 84 | | | 70-130 | Pass | |
| Pyrene | M19-No23390 | NCP | % | 96 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | | | | | |
| 2-Chlorophenol | M19-No23390 | NCP | % | 91 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | M19-No23390 | NCP | % | 100 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | M19-No23390 | NCP | % | 211 | | | 30-130 | Fail | Q08 |
| 2.4.6-Trichlorophenol | M19-No23390 | NCP | % | 109 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | M19-No23390 | NCP | % | 101 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | M19-No23390 | NCP | % | 68 | | | 30-130 | Pass | |
| Pentachlorophenol | M19-No23390 | NCP | % | 111 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | M19-No23390 | NCP | % | 230 | | | 30-130 | Fail | Q08 |
| **Spike - % Recovery** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | M19-No23390 | NCP | % | 89 | | | 30-130 | Pass | |
| 2-Methyl-4.6-dinitrophenol | M19-No23390 | NCP | % | 172 | | | 30-130 | Fail | Q08 |
| 2-Methylphenol (o-Cresol) | M19-No23390 | NCP | % | 84 | | | 30-130 | Pass | |
| 2-Nitrophenol | M19-No23390 | NCP | % | 99 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | M19-No23390 | NCP | % | 87 | | | 30-130 | Pass | |
| 2.4-Dinitrophenol | M19-No23390 | NCP | % | 56 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | M19-No23390 | NCP | % | 85 | | | 30-130 | Pass | |
| 4-Nitrophenol | M19-No23390 | NCP | % | 41 | | | 30-130 | Pass | |
| Dinoseb | M19-No23390 | NCP | % | 134 | | | 30-130 | Fail | Q08 |
| Phenol | M19-No23390 | NCP | % | 41 | | | 30-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | B19-No15006 | NCP | % | 81 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | | | | | |
| TRH C10-C14 (after silica gel clean-up) | B19-No15006 | NCP | % | 84 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Chloride | M19-No23811 | NCP | % | 73 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Manganese (filtered) | M19-No23172 | NCP | % | 120 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | Result 1 | | | | | |
| Aroclor-1016 | M19-No23441 | CP | % | 96 | | | 70-130 | Pass | |
| Aroclor-1260 | M19-No23441 | CP | % | 110 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH >C10-C16 | M19-No23442 | CP | % | 97 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C10-C14 | M19-No23442 | CP | % | 102 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | M19-No23445 | CP | % | 76 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Calcium | M19-No23446 | CP | % | 119 | | | 70-130 | Pass | |
| Magnesium | M19-No23446 | CP | % | 119 | | | 70-130 | Pass | |
| Potassium | M19-No23446 | CP | % | 112 | | | 70-130 | Pass | |
| Sodium | M19-No23446 | CP | % | 119 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | | | | | |
| 4.4'-DDD | P19-No22182 | NCP | % | 73 | | | 70-130 | Pass | |
| 4.4'-DDE | P19-No22182 | NCP | % | 73 | | | 70-130 | Pass | |
| 4.4'-DDT | P19-No22182 | NCP | % | 86 | | | 70-130 | Pass | |
| a-BHC | P19-No22182 | NCP | % | 72 | | | 70-130 | Pass | |
| Aldrin | P19-No22182 | NCP | % | 76 | | | 70-130 | Pass | |
| b-BHC | P19-No22182 | NCP | % | 85 | | | 70-130 | Pass | |
| d-BHC | P19-No22182 | NCP | % | 71 | | | 70-130 | Pass | |
| Dieldrin | P19-No22182 | NCP | % | 84 | | | 70-130 | Pass | |
| Endosulfan I | P19-No22182 | NCP | % | 76 | | | 70-130 | Pass | |
| Endosulfan II | P19-No22182 | NCP | % | 74 | | | 70-130 | Pass | |
| Endosulfan sulphate | P19-No22182 | NCP | % | 72 | | | 70-130 | Pass | |
| Endrin | P19-No22182 | NCP | % | 77 | | | 70-130 | Pass | |
| Endrin aldehyde | P19-No22182 | NCP | % | 79 | | | 70-130 | Pass | |
| Endrin ketone | P19-No22182 | NCP | % | 72 | | | 70-130 | Pass | |
| g-BHC (Lindane) | P19-No22182 | NCP | % | 75 | | | 70-130 | Pass | |
| Heptachlor | P19-No22182 | NCP | % | 74 | | | 70-130 | Pass | |
| Heptachlor epoxide | P19-No22182 | NCP | % | 76 | | | 70-130 | Pass | |
| Hexachlorobenzene | P19-No22182 | NCP | % | 74 | | | 70-130 | Pass | |
| Methoxychlor | P19-No22182 | NCP | % | 76 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ammonia (as N) | M19-No23449 | CP | % | 88 | | | 70-130 | Pass | |
| Nitrate (as N) | M19-No23449 | CP | % | 81 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | M19-No23449 | CP | % | 119 | | | 70-130 | Pass | |
| Cadmium (filtered) | M19-No23449 | CP | % | 120 | | | 70-130 | Pass | |
| Chromium (filtered) | M19-No23449 | CP | % | 115 | | | 70-130 | Pass | |
| Copper (filtered) | M19-No23449 | CP | % | 129 | | | 70-130 | Pass | |
| Lead (filtered) | M19-No23449 | CP | % | 119 | | | 70-130 | Pass | |
| Mercury (filtered) | M19-No23449 | CP | % | 101 | | | 70-130 | Pass | |
| Nickel (filtered) | M19-No23449 | CP | % | 110 | | | 70-130 | Pass | |
| Zinc (filtered) | M19-No23449 | CP | % | 116 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Sulphate (as SO4) | M19-No23452 | CP | % | 100 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | M19-No23455 | CP | % | 113 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | M19-No23455 | CP | % | 106 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic | M19-No23605 | NCP | % | 97 | | | 75-125 | Pass | |
| Cadmium | M19-No23605 | NCP | % | 91 | | | 75-125 | Pass | |
| Chromium | M19-No23605 | NCP | % | 90 | | | 75-125 | Pass | |
| Copper | M19-No23605 | NCP | % | 98 | | | 75-125 | Pass | |
| Lead | M19-No23605 | NCP | % | 94 | | | 75-125 | Pass | |
| Mercury | M19-No23605 | NCP | % | 89 | | | 70-130 | Pass | |
| Nickel | M19-No23605 | NCP | % | 86 | | | 75-125 | Pass | |
| Zinc | M19-No23605 | NCP | % | 93 | | | 75-125 | Pass | |
| **Test** | **Lab Sample ID** | **QA Source** | **Units** | **Result 1** | | | **Acceptance Limits** | **Pass Limits** | **Qualifying Code** |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| Naphthalene | M19-No24652 | NCP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| TRH C6-C10 | M19-No24652 | NCP | mg/L | 0.10 | 0.11 | 6.0 | 30% | Pass | |
| TRH >C10-C16 | M19-No24561 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 | M19-No24561 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 | M19-No24561 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | M19-No24652 | NCP | mg/L | 0.08 | 0.08 | 6.0 | 30% | Pass | |
| TRH C10-C14 | M19-No24561 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 | M19-No24561 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 | M19-No24561 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **BTEX** | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | M19-No24652 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Toluene | M19-No24652 | NCP | mg/L | 0.014 | 0.014 | 1.0 | 30% | Pass | |
| Ethylbenzene | M19-No24652 | NCP | mg/L | 0.002 | 0.002 | <1 | 30% | Pass | |
| m&p-Xylenes | M19-No24652 | NCP | mg/L | 0.005 | 0.005 | 3.0 | 30% | Pass | |
| o-Xylene | M19-No24652 | NCP | mg/L | 0.003 | 0.003 | 12 | 30% | Pass | |
| Xylenes - Total | M19-No24652 | NCP | mg/L | 0.008 | 0.007 | 6.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Acenaphthylene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Anthracene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benz(a)anthracene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Chrysene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluoranthene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluorene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Naphthalene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Phenanthrene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Pyrene | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |

| Duplicate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| 4.4'-DDD | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDE | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDT | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| a-BHC | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Aldrin | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| b-BHC | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| d-BHC | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Dieldrin | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan I | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan II | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan sulphate | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin aldehyde | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin ketone | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| g-BHC (Lindane) | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor epoxide | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Hexachlorobenzene | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Methoxychlor | M19-No23440 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Toxaphene | M19-No23440 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Azinphos-methyl | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Bolstar | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorfenvinphos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorpyrifos | M19-No23440 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Chlorpyrifos-methyl | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Coumaphos | M19-No23440 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-S | M19-No23440 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-O | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Diazinon | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dichlorvos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dimethoate | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Disulfoton | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| EPN | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethoprop | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethyl parathion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenitrothion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fensulfothion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenthion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Malathion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Merphos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Methyl parathion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Mevinphos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Monocrotophos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Naled | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Omethoate | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Phorate | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Pirimiphos-methyl | M19-No23440 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Pyrazophos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ronnel | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Terbufos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |

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| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Tetrachlorvinphos | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tokuthion | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Trichloronate | M19-No23440 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | Result 1 | Result 2 | RPD | | | |
| Aroclor-1016 | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1221 | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1232 | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1242 | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1248 | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1254 | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1260 | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Total PCB* | M19-No23440 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Chlorophenol | M19-No23440 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dichlorophenol | M19-No23440 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4.5-Trichlorophenol | M19-No23440 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4.6-Trichlorophenol | M19-No23440 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.6-Dichlorophenol | M19-No23440 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 4-Chloro-3-methylphenol | M19-No23440 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Pentachlorophenol | M19-No23440 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Tetrachlorophenols - Total | M19-No23440 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | M19-No23440 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 2-Methyl-4.6-dinitrophenol | M19-No23440 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 2-Methylphenol (o-Cresol) | M19-No23440 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2-Nitrophenol | M19-No23440 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4-Dimethylphenol | M19-No23440 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dinitrophenol | M19-No23440 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | M19-No23440 | CP | mg/L | < 0.006 | < 0.006 | <1 | 30% | Pass | |
| 4-Nitrophenol | M19-No23440 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| Dinoseb | M19-No23440 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Phenol | M19-No23440 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 (after silica gel clean-up) | B19-No15005 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | B19-No15005 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | B19-No15005 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | B19-No15005 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C10-C14 (after silica gel clean-up) | B19-No15005 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 (after silica gel clean-up) | B19-No15005 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 (after silica gel clean-up) | B19-No15005 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| pH (at 25°C) | M19-No23440 | CP | pH Units | 7.9 | 7.8 | pass | 30% | Pass | |

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| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Chloride | M19-No23443 | CP | mg/L | 100 | 120 | 17 | 30% | Pass | |
| Sulphate (as SO4) | M19-No23443 | CP | mg/L | 43 | 42 | 3.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | M19-No23446 | CP | mg/L | 330 | 340 | 4.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | M19-No23446 | CP | mg/L | 54 | 54 | <1 | 30% | Pass | |
| Magnesium | M19-No23446 | CP | mg/L | 8.8 | 8.8 | <1 | 30% | Pass | |
| Potassium | M19-No23446 | CP | mg/L | 1.0 | 1.0 | 2.0 | 30% | Pass | |
| Sodium | M19-No23446 | CP | mg/L | 32 | 32 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | M19-No23449 | CP | mg/L | 0.02 | 0.01 | 63 | 30% | Fail | Q15 |
| Ferrous Iron - Fe2+ | M19-No23449 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Nitrate (as N) | M19-No23449 | CP | mg/L | 2.8 | 2.8 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | M19-No23449 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium (filtered) | M19-No23449 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | M19-No23449 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | M19-No23449 | CP | mg/L | 0.001 | 0.001 | 3.0 | 30% | Pass | |
| Lead (filtered) | M19-No23449 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | M19-No23449 | CP | mg/L | 6.3 | 6.9 | 9.0 | 30% | Pass | |
| Mercury (filtered) | M19-No23449 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | M19-No23449 | CP | mg/L | 0.010 | 0.011 | 5.0 | 30% | Pass | |
| Zinc (filtered) | M19-No23449 | CP | mg/L | 0.022 | 0.024 | 9.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Acenaphthylene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Anthracene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benz(a)anthracene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Chrysene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluoranthene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluorene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Naphthalene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Phenanthrene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Pyrene | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| 4.4'-DDD | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDE | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDT | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| a-BHC | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Aldrin | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |

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| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| b-BHC | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| d-BHC | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Dieldrin | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan I | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan II | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan sulphate | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin aldehyde | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin ketone | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| g-BHC (Lindane) | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor epoxide | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Hexachlorobenzene | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Methoxychlor | M19-No23450 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Azinphos-methyl | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Bolstar | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorfenvinphos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorpyrifos | M19-No23450 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Chlorpyrifos-methyl | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Coumaphos | M19-No23450 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-S | M19-No23450 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-O | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Diazinon | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dichlorvos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dimethoate | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Disulfoton | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| EPN | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethoprop | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethyl parathion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenitrothion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fensulfothion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenthion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Malathion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Merphos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Methyl parathion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Mevinphos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Monocrotophos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Naled | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Omethoate | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Phorate | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Pirimiphos-methyl | M19-No23450 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Pyrazophos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ronnel | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Terbufos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tetrachlorvinphos | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tokuthion | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Trichloronate | M19-No23450 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |

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| **Duplicate** | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | Result 1 | Result 2 | RPD | | | |
| Aroclor-1016 | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1221 | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1232 | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1242 | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1248 | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1254 | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1260 | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Total PCB* | M19-No23450 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Chlorophenol | M19-No23450 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dichlorophenol | M19-No23450 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4.5-Trichlorophenol | M19-No23450 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4.6-Trichlorophenol | M19-No23450 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.6-Dichlorophenol | M19-No23450 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 4-Chloro-3-methylphenol | M19-No23450 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Pentachlorophenol | M19-No23450 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Tetrachlorophenols - Total | M19-No23450 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | M19-No23450 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 2-Methyl-4.6-dinitrophenol | M19-No23450 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 2-Methylphenol (o-Cresol) | M19-No23450 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2-Nitrophenol | M19-No23450 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4-Dimethylphenol | M19-No23450 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dinitrophenol | M19-No23450 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | M19-No23450 | CP | mg/L | < 0.006 | < 0.006 | <1 | 30% | Pass | |
| 4-Nitrophenol | M19-No23450 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| Dinoseb | M19-No23450 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Phenol | M19-No23450 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | M19-No23450 | CP | mg/L | < 0.005 | < 0.005 | <1 | 30% | Pass | |
| pH (at 25°C) | M19-No23450 | CP | pH Units | 7.2 | 7.1 | pass | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | Result 2 | RPD | | | |
| Bicarbonate Alkalinity (as CaCO3) | M19-No23450 | CP | mg/L | 77 | 83 | 8.0 | 30% | Pass | |
| Carbonate Alkalinity (as CaCO3) | M19-No23450 | CP | mg/L | < 10 | < 10 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | M19-No23452 | CP | mg/L | 200 | 190 | 7.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Chloride | M19-No23453 | CP | mg/L | 97 | 120 | 17 | 30% | Pass | |
| Sulphate (as SO4) | M19-No23453 | CP | mg/L | 51 | 53 | 4.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | M19-No23455 | CP | mg/L | 0.032 | 0.032 | 1.0 | 30% | Pass | |

| Duplicate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | M19-No23605 | NCP | mg/L | 0.001 | 0.001 | 6.0 | 30% | Pass | |
| Cadmium | M19-No23605 | NCP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium | M19-No23605 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper | M19-No23605 | NCP | mg/L | 0.002 | 0.003 | 43 | 30% | Fail | Q15 |
| Lead | M19-No23605 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Mercury | M19-No23605 | NCP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel | M19-No23605 | NCP | mg/L | 0.001 | 0.002 | 3.0 | 30% | Pass | |
| Zinc | M19-No23605 | NCP | mg/L | 0.007 | 0.010 | 29 | 30% | Pass | |

## Comments

### Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

### Qualifier Codes/Comments

| Code | Description |
|---|---|
| N01 | F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). |
| N02 | Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid. |
| N04 | F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. |
| N07 | Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs |
| Q08 | The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference. |
| Q15 | The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report. |
| R16 | The LORs have been raised due to the high concentration of one or more analytes |
| R20 | This sample is a Trip Spike and therefore all results are reported as a percentage |

## Authorised By

| | |
|---|---|
| Alena Bounkeua | Analytical Services Manager |
| Emily Rosenberg | Senior Analyst-Metal (VIC) |
| Harry Bacalis | Senior Analyst-Volatile (VIC) |
| Joseph Edouard | Senior Analyst-Organic (VIC) |
| Julie Kay | Senior Analyst-Inorganic (VIC) |



**Glenn Jackson**
**General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

eurofins | mgt

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Email: enviro.bris@mgtlabmark.com.au

**☐ Melbourne**
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Phone: +613 8564 5000 Fax: +613 8564 5090
Email: enquiries.melb@mgtlabmark.com.au

# CHAIN OF CUSTODY RECORD



**CLIENT DETAILS**

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2019 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

**Analytes**

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) Trace Level PAHs | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (B7) | | Ferrous Iron | Manganese | pH | TDS | TSS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CSM_BH02 | 17/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 2 | CSM_BH04 | 17/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 3 | CSM_BH06 | 17/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 4 | CSM_BH08 | 16/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 5 | CSM_BH09S | 16/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 6 | CSM_BH10S | 17/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 7 | SRT_BH047 | 18/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 8 | SRT_BH052 | 18/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 9 | SRT_BH059 | 18/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| ~~10~~ | ~~SRT_BH063~~ | | ~~Water~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | |
| 11 | SRT_CBH015 | 18/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 12 | SRT_CBH017 | 18/12/19 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 13 | GASW_BH7 | 16/12/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 14 | GASW_BH10 | 16/12/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 15 | GASW_BH11 | 16/12/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |
| 16 | GASW_BH23 | 16/12/19 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Containers:**

| | 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag | Sample comments: |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 4 | | 2 | 2 | | | |
| 2 | 1 | | 4 | | 2 | 2 | | | |
| 3 | 1 | | 4 | | 2 | 2 | | | |
| 4 | 1 | | 4 | | 2 | 2 | | | |
| 5 | 1 | | 4 | | 2 | 2 | | | |
| 6 | 1 | | 4 | | 2 | 2 | | | |
| 7 | 1 | | 4 | | 2 | 2 | | | |
| 8 | 1 | | 4 | | 2 | 2 | | | |
| 9 | 1 | | 4 | | 2 | 2 | | | |
| ~~10~~ | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | | |
| 11 | 1 | | 4 | | 2 | 2 | | | |
| 12 | 1 | | 4 | | 2 | 2 | | | |
| 13 | 1 | | 4 | | 2 | 2 | | | |
| 14 | 1 | | 4 | | 2 | 2 | | | |
| 15 | 1 | | 4 | | 2 | 2 | | | |
| 16 | 1 | | 4 | | 2 | 2 | | | |

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 18/12/2019
**Signature:**

**Laboratory Staff**
**Received By:** Yuan D
**Date & Time :** 18/12/19 4:50 PM
**Signature:** 18/12/19

**Turn around time**
1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

**Method Of Shipment**
☐ Courier
☒ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:** 6.8°C

**Report number:** 694466

drop off

eurofins | mgt

☑ **Sydney**
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2 Kingston Town Close, Oakleigh, VIC 3166
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Email: enquiries.melb@mgtlabmark.com.au

# CHAIN OF CUSTODY RECORD

**CLIENT DETAILS** 

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2019 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

**Analytes**

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) Trace Level PAHs | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (B7) | | Ferrous Iron | Manganese | pH | TDS | TSS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GASW_BH25a | 16/12/19 | Water | X | | X | X | X | X | | | | | X | X | X | X | X |
| 2 | ~~QC01~~ | | ~~Water~~ | ~~PLEASE SEND TO ALS WITH ATTACHED COC~~ | | | | | | | | | | | | | | |
| 3 | ~~BH32~~ QC01 | 17/12/19 | Water | | | | | | | | | X | | | | | | |
| 4 | RB01 | 16/12/19 | Water | | | | | | | | X | | | | | | | |
| 5 | Trip Blank | 16/12/19 | Water | | | | | | | X | | | | | | | | |
| 6 | Trip Spike | 16/12/19 | Water | | | | | | | X | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Containers:**

| | 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 4 | | 2 | 2 | | |
| 2 | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ 1 | | |
| 3 | 1 | | 4 | | 2 | 2 | | |
| 4 | | | 1 | | | | | |
| 5 | | | | | 2 | | | |
| 6 | | | | | 2 | | | |

**Sample comments:**

**Laboratory Staff**

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 18/12/2019
**Signature:**

**Received By:** Priyan
**Date & Time :** 18/12/19
**Signature:**

**Turn around time**

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
6 DAY ☑ 10 DAY ☐ Other:

**Method Of Shipment**

☐ Courier
☑ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:**

**Report number:**

eurofins | Environment Testing

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NATA # 1261
Site # 1254 & 14271

**Sydney**
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

**Brisbane**
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NATA # 1261 Site # 20794

**Perth**
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

| | |
|---|---|
| Company name: | **GHD Pty Ltd NSW** |
| Contact name: | Henry Luo |
| Project name: | CENTRAL |
| Project ID: | 21-27234 |
| COC number: | Not provided |
| Turn around time: | 5 Day |
| Date/Time received: | Dec 18, 2019 1:50 PM |
| Eurofins reference: | **694466** |

## Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 6.7 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

## Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Henry Luo - henry.luo@ghd.com.

**GHD Pty Ltd NSW**
**Level 15, 133 Castlereagh Street**
**Sydney**
**NSW 2000**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Henry Luo**

**Report** **694466-W**
Project name CENTRAL
Project ID 21-27234
Received Date Dec 18, 2019

| **Client Sample ID** | | | **CSM_BH02** | **CSM_BH04** | **CSM_BH06** | **CSM_BH08** |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** | **Water** | **Water** |
| **Eurofins Sample No.** | | | **S19-De26648** | **S19-De26649** | **S19-De26650** | **S19-De26651** |
| **Date Sampled** | | | **Dec 17, 2019** | **Dec 17, 2019** | **Dec 17, 2019** | **Dec 16, 2019** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 99 | 102 | 102 | 108 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26648 | S19-De26649 | S19-De26650 | S19-De26651 |
| Date Sampled | | | Dec 17, 2019 | Dec 17, 2019 | Dec 17, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 65 | 73 | 54 | 98 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 52 | 56 | 54 | 76 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26648 | S19-De26649 | S19-De26650 | S19-De26651 |
| Date Sampled | | | Dec 17, 2019 | Dec 17, 2019 | Dec 17, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 57 | 62 | 57 | 89 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 65 | 73 | 54 | 98 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 52 | 56 | 54 | 76 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 31 | 33 | 35 | 70 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26648 | S19-De26649 | S19-De26650 | S19-De26651 |
| Date Sampled | | | Dec 17, 2019 | Dec 17, 2019 | Dec 17, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00002 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00003 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00006 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00003 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00014 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 75 | 74 | 50 | 102 |
| p-Terphenyl-d14 (surr.) | 1 | % | 54 | 55 | 60 | 101 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.02 | 0.02 | < 0.01 | < 0.01 |
| Chloride | 1 | mg/L | 150 | 89 | 570 | 110 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 0.68 | 9.1 | 2.5 | 5.4 |
| Nitrate (as N) | 0.02 | mg/L | 0.16 | < 0.02 | < 0.02 | 0.10 |
| pH (at 25°C) | 0.1 | pH Units | 8.1 | 7.0 | 7.0 | 7.1 |
| Sulphate (as SO4) | 5 | mg/L | 34 | 37 | 26 | 48 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 290 | 140 | 590 | 250 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 2800 | 1000 | 62 | 8.8 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 280 | 120 | 180 | 110 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 33 | 8.5 | 32 | 11 |
| Magnesium | 0.5 | mg/L | 30 | 14 | 30 | 13 |
| Potassium | 0.5 | mg/L | 5.0 | 3.1 | 5.1 | 3.7 |
| Sodium | 0.5 | mg/L | 78 | 62 | 83 | 59 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.031 | 0.005 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.19 | 0.32 | 0.29 | 0.25 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.009 | 0.021 | 0.026 | 0.008 |
| Zinc (filtered) | 0.005 | mg/L | 0.012 | 0.014 | 0.054 | 0.032 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26652 | S19-De26653 | S19-De26654 | S19-De26655 |
| Date Sampled | | | Dec 16, 2019 | Dec 17, 2019 | Dec 18, 2019 | Dec 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 109 | 104 | 103 | 98 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 115 | 88 | 79 | 95 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 99 | 80 | 129 | 81 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26652 | S19-De26653 | S19-De26654 | S19-De26655 |
| Date Sampled | | | Dec 16, 2019 | Dec 17, 2019 | Dec 18, 2019 | Dec 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 101 | 76 | 137 | 84 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 115 | 88 | 79 | 95 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 99 | 80 | 129 | 81 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26652 | S19-De26653 | S19-De26654 | S19-De26655 |
| Date Sampled | | | Dec 16, 2019 | Dec 17, 2019 | Dec 18, 2019 | Dec 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 50 | 43 | 66 | 48 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00001 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26652 | S19-De26653 | S19-De26654 | S19-De26655 |
| Date Sampled | | | Dec 16, 2019 | Dec 17, 2019 | Dec 18, 2019 | Dec 18, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| 2-Fluorobiphenyl (surr.) | 1 | % | 61 | 51 | 74 | 52 |
| p-Terphenyl-d14 (surr.) | 1 | % | 76 | 57 | 94 | 58 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | < 0.01 | < 0.01 | 0.02 | 0.01 |
| Chloride | 1 | mg/L | 48 | 16 | 46 | 83 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 6.4 | 0.16 | < 0.05 | 0.06 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | 0.89 | 19 | 4.4 |
| pH (at 25°C) | 0.1 | pH Units | 6.7 | 6.1 | 8.3 | 8.3 |
| Sulphate (as SO4) | 5 | mg/L | 150 | 54 | 12 | 36 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 380 | 200 | 290 | 280 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 48 | 260 | 100 | 85 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 75 | 21 | 130 | 140 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 4.1 | 3.2 | 49 | 30 |
| Magnesium | 0.5 | mg/L | 6.7 | 4.6 | 9.2 | 4.8 |
| Potassium | 0.5 | mg/L | 2.7 | 2.3 | 0.9 | 1.7 |
| Sodium | 0.5 | mg/L | 88 | 18 | 16 | 27 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.001 | 0.002 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.73 | 0.45 | < 0.005 | < 0.005 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.006 | 0.002 | < 0.001 | < 0.001 |
| Zinc (filtered) | 0.005 | mg/L | 0.031 | 0.006 | < 0.005 | < 0.005 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26656 | S19-De26657 | S19-De26658 | S19-De26659 |
| Date Sampled | | | Dec 18, 2019 | Dec 18, 2019 | Dec 18, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.15 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.18 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.18 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.18 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26656 | S19-De26657 | S19-De26658 | S19-De26659 |
| Date Sampled | | | Dec 18, 2019 | Dec 18, 2019 | Dec 18, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.14 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | 0.11 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.11 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.12 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.003 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | 0.003 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.002 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.005 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 105 | 93 | 93 | 96 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 128 | 63 | 70 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 81 | 59 | 97 | - |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26656 | S19-De26657 | S19-De26658 | S19-De26659 |
| Date Sampled | | | Dec 18, 2019 | Dec 18, 2019 | Dec 18, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | - |
| Triphenylphosphate (surr.) | 1 | % | 113 | 56 | 68 | - |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 128 | 63 | 70 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 81 | 59 | 97 | - |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26656 | S19-De26657 | S19-De26658 | S19-De26659 |
| Date Sampled | | | Dec 18, 2019 | Dec 18, 2019 | Dec 18, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.004 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 65 | 27 | 37 | 41 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00007 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00005 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | 0.00003 | < 0.00001 | 0.00001 | 0.00030 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00002 |
| Total PAH* | 0.00001 | mg/L | 0.00003 | < 0.00001 | 0.00001 | 0.00046 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 71 | 62 | 76 | 51 |
| p-Terphenyl-d14 (surr.) | 1 | % | 73 | 88 | 80 | 55 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.02 | 0.06 | 0.02 | 0.04 |
| Chloride | 1 | mg/L | 12 | 14 | 13 | 68 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 0.08 | 0.17 | 0.17 | 14 |
| Nitrate (as N) | 0.02 | mg/L | 1.9 | 2.4 | 0.31 | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 7.9 | 6.1 | 7.0 | 3.5 |
| Sulphate (as SO4) | 5 | mg/L | 13 | 45 | 31 | 150 |

| Client Sample ID | | | SRT_BH059 | SRT_CBH015 | SRT_CBH017 | GASW_BH7 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26656 | S19-De26657 | S19-De26658 | S19-De26659 |
| Date Sampled | | | Dec 18, 2019 | Dec 18, 2019 | Dec 18, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| | | | | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 260 | 120 | 150 | 260 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 15 | 39 | 9.6 | 18 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 210 | 25 | 78 | < 20 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 56 | 3.0 | 13 | 3.1 |
| Magnesium | 0.5 | mg/L | 8.0 | 5.3 | 10 | 3.4 |
| Potassium | 0.5 | mg/L | 6.6 | 3.4 | 3.5 | 0.6 |
| Sodium | 0.5 | mg/L | 15 | 18 | 21 | 47 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.001 | < 0.001 | < 0.001 | 0.008 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | 0.002 |
| Manganese (filtered) | 0.005 | mg/L | < 0.005 | 5.5 | 2.3 | 0.081 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | < 0.001 | 0.011 | 0.006 | 0.004 |
| Zinc (filtered) | 0.005 | mg/L | 0.005 | 0.024 | 0.010 | 0.063 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | GASW_BH23 | GASW_BH25A |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26660 | S19-De26661 | S19-De26662 | S19-De26663 |
| Date Sampled | | | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.08 | < 0.5 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | 0.87 | 20 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | 0.26 | 6.3 |
| TRH >C10-C16 | 0.05 | mg/L | 0.05 | 0.17 | < 0.05 | 0.28 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | 0.05 | 0.17 | < 0.05 | < 0.5 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.3 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.17 | < 0.1 | 0.58 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | 0.87 | 20 |
| TRH C10-C14 | 0.05 | mg/L | 0.06 | 0.11 | < 0.05 | 0.25 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.3 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.11 | < 0.1 | 0.55 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 0.010 | 0.56 | 9.7 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | 0.053 | 3.5 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.008 | 0.11 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.016 | 0.25 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.008 | 0.12 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | GASW_BH23 | GASW_BH25A |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26660 | S19-De26661 | S19-De26662 | S19-De26663 |
| Date Sampled | | | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **BTEX** | | | | | | |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.024 | 0.37 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 100 | 67 | 95 | 99 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.046 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.006 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | 0.055 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | 0.088 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | 0.195 |
| Phenol-d6 (surr.) | 1 | % | 59 | 32 | 26 | 23 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | 0.00025 | 0.00062 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | 0.00003 | 0.00036 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | 0.00011 | 0.00083 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00035 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00036 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00021 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00020 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00027 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00035 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00005 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | 0.00029 | 0.0015 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | 0.00030 | 0.0011 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | 0.00015 |
| Naphthalene | 0.00001 | mg/L | 0.00004 | 0.00002 | 0.00028 | 0.0049 |

| Client Sample ID | | | GASW_BH10 | GASW_BH11 | GASW_BH23 | GASW_BH25A |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26660 | S19-De26661 | S19-De26662 | S19-De26663 |
| Date Sampled | | | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | 0.00010 | 0.0016 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | 0.00038 | 0.0020 |
| Total PAH* | 0.00001 | mg/L | 0.00004 | 0.00002 | 0.00174 | 0.01485 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 64 | 71 | 59 | 58 |
| p-Terphenyl-d14 (surr.) | 1 | % | 82 | 77 | 63 | 65 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.05 | < 0.01 | 0.27 | 0.74 |
| Chloride | 1 | mg/L | 110 | 68 | 35 | 25 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | 0.013 | 0.074 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 18 | 3.8 | 0.16 | 0.26 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | < 0.02 | 0.97 | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 6.7 | 6.2 | 11 | 8.2 |
| Sulphate (as SO4) | 5 | mg/L | < 5 | 54 | 97 | 230 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 1200 | 180 | 290 | 450 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 64 | 28 | 2.4 | 21 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 520 | 55 | < 20 | 110 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | 86 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 88 | 4.1 | 37 | 100 |
| Magnesium | 0.5 | mg/L | 67 | 6.0 | < 0.5 | 5.6 |
| Potassium | 0.5 | mg/L | 14 | 1.6 | 15 | 7.9 |
| Sodium | 0.5 | mg/L | 140 | 48 | 50 | 30 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.005 | 0.006 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.003 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | 0.005 | 0.002 | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.67 | 0.16 | < 0.005 | 0.086 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.030 | 0.003 | < 0.001 | < 0.001 |
| Zinc (filtered) | 0.005 | mg/L | 0.026 | 0.024 | 0.005 | < 0.005 |

| Client Sample ID | | | QC01 | RB01 | TRIP BLANK | [R20]TRIP SPIKE |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26664 | S19-De26665 | S19-De26666 | S19-De26667 |
| Date Sampled | | | Dec 17, 2019 | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | - | < 0.01 | 100 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | - | < 0.02 | 80 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | - | < 0.02 | - |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH >C16-C34 | 0.1 | mg/L | 0.3 | - | - | - |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH >C10-C40 (total)* | 0.1 | mg/L | 0.3 | - | - | - |

| Client Sample ID | | | QC01 | RB01 | TRIP BLANK | [R20]TRIP SPIKE |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-De26664 | S19-De26665 | S19-De26666 | S19-De26667 |
| Date Sampled | | | Dec 17, 2019 | Dec 16, 2019 | Dec 16, 2019 | Dec 16, 2019 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | - | < 0.02 | 83 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH C15-C28 | 0.1 | mg/L | 0.3 | - | - | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH C10-C36 (Total) | 0.1 | mg/L | 0.3 | - | - | - |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 99 |
| Toluene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 98 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 97 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | - | < 0.002 | 94 |
| o-Xylene | 0.001 | mg/L | < 0.001 | - | < 0.001 | 100 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | - | < 0.003 | 96 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 93 | - | 89 | 95 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | - | - | - |
| Anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(b&j)fluoranthene[N07] | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(g.h.i)perylene | 0.001 | mg/L | < 0.001 | - | - | - |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Chrysene | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibenz(a.h)anthracene | 0.001 | mg/L | < 0.001 | - | - | - |
| Fluoranthene | 0.001 | mg/L | < 0.001 | - | - | - |
| Fluorene | 0.001 | mg/L | < 0.001 | - | - | - |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Naphthalene | 0.001 | mg/L | < 0.001 | - | - | - |
| Phenanthrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Total PAH* | 0.001 | mg/L | < 0.001 | - | - | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | 65 | - | - | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 59 | - | - | - |
| **Heavy Metals** | | | | | | |
| Arsenic | 0.001 | mg/L | - | < 0.001 | - | - |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Cadmium | 0.0002 | mg/L | - | < 0.0002 | - | - |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | - | - | - |
| Chromium | 0.001 | mg/L | - | < 0.001 | - | - |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Copper | 0.001 | mg/L | - | < 0.001 | - | - |
| Copper (filtered) | 0.001 | mg/L | 0.031 | - | - | - |
| Lead | 0.001 | mg/L | - | < 0.001 | - | - |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | - | - | - |
| Mercury | 0.0001 | mg/L | - | < 0.0001 | - | - |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Nickel | 0.001 | mg/L | - | < 0.001 | - | - |
| Nickel (filtered) | 0.001 | mg/L | 0.027 | - | - | - |
| Zinc | 0.005 | mg/L | - | < 0.005 | - | - |
| Zinc (filtered) | 0.005 | mg/L | 0.056 | - | - | - |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Dec 23, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons | Melbourne | Dec 20, 2019 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Melbourne | Dec 23, 2019 | 14 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Eurofins \| mgt Suite B6 (filtered metals) | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Jan 03, 2020 | |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Metals M8 filtered | Melbourne | Dec 23, 2019 | 28 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Eurofins \| mgt Suite B7 (filtered metals) | | | |
| Polycyclic Aromatic Hydrocarbons | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Eurofins \| mgt Suite B15 | | | |
| Organochlorine Pesticides | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) | | | |
| Organophosphorus Pesticides | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081) | | | |
| Polychlorinated Biphenyls | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082) | | | |
| Phenols (IWRG 621) | | | |
| Phenols (Halogenated) | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (non-Halogenated) | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A | | | |
| Polycyclic Aromatic Hydrocarbons (Trace level) | Melbourne | Jan 03, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace) | | | |
| Cyanide (total) | Melbourne | Dec 23, 2019 | 14 Days |
| - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA | | | |
| Ferrous Iron - Fe2+ | Melbourne | Dec 23, 2019 | 7 Days |
| - Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser | | | |
| pH (at 25°C) | Melbourne | Dec 23, 2019 | 0 Hours |
| - Method: LTM-GEN-7090 pH in water by ISE | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | Melbourne | Dec 30, 2019 | 7 Days |
| - Method: LTM-INO-4170 Total Dissolved Solids in Water | | | |
| Total Suspended Solids Dried at 103–105°C | Melbourne | Dec 23, 2019 | 7 Days |
| - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | | | |
| Metals M8 | Melbourne | Dec 20, 2019 | 180 Days |
| - Method: | | | |
| Heavy Metals (filtered) | Melbourne | Dec 23, 2019 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Major Cations | | | |
| Ammonia (as N) | Melbourne | Dec 23, 2019 | 28 Days |

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| - Method: LTM-INO-4200 Ammonia by Discrete Analyser | | | |
| Alkali Metals | Melbourne | Dec 23, 2019 | 180 Days |
| - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES | | | |
| Major Anions | | | |
| Chloride | Melbourne | Dec 23, 2019 | 28 Days |
| - Method: LTM-INO-4090 Chloride by Discrete Analyser | | | |
| Nitrate (as N) | Melbourne | Dec 23, 2019 | 28 Days |
| - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | | | |
| Sulphate (as SO4) | Melbourne | Dec 23, 2019 | 28 Days |
| - Method: LTM-INO-4110 Sulfate by Discrete Analyser | | | |
| Alkalinity (speciated) | Melbourne | Dec 23, 2019 | 14 Days |
| - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | | | |

eurofins | Environment Testing

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Site # 23736

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Phone : 0800 856 450
IANZ # 1290

**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:** 21-27234
**Report #:** 694466
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Dec 18, 2019 1:50 PM
**Due:** Dec 27, 2019
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Phenols (IWRG 621) | Eurofins \| mgt Suite B15 | Major Anions | Major Cations | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B6 (filtered metals) | BTEXN and Volatile TRH | Polycyclic Aromatic Hydrocarbons (Trace level) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | | | |
| **External Laboratory** | | | | | | | | | | | | | | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | | | | | | | | | | | | | | |
| 1 | CSM_BH02 | Dec 17, 2019 | | Water | S19-De26648 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 2 | CSM_BH04 | Dec 17, 2019 | | Water | S19-De26649 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 3 | CSM_BH06 | Dec 17, 2019 | | Water | S19-De26650 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 4 | CSM_BH08 | Dec 16, 2019 | | Water | S19-De26651 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 5 | CSM_BH09S | Dec 16, 2019 | | Water | S19-De26652 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 6 | CSM_BH10S | Dec 17, 2019 | | Water | S19-De26653 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 7 | SRT_BH047 | Dec 18, 2019 | | Water | S19-De26654 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 8 | SRT_BH052 | Dec 18, 2019 | | Water | S19-De26655 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 9 | SRT_BH059 | Dec 18, 2019 | | Water | S19-De26656 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 10 | SRT_CBH015 | Dec 18, 2019 | | Water | S19-De26657 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | | | |
| 11 | SRT_CBH017 | Dec 18, 2019 | | Water | S19-De26658 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 12 | GASW_BH7 | Dec 16, 2019 | | Water | S19-De26659 | X | X | X | X | X | X | | X | | X | X | X | | X | | X |
| 13 | GASW_BH10 | Dec 16, 2019 | | Water | S19-De26660 | X | X | X | X | X | X | | X | | X | X | X | | X | | X |
| 14 | GASW_BH11 | Dec 16, 2019 | | Water | S19-De26661 | X | X | X | X | X | X | | X | | X | X | X | | X | | X |
| 15 | GASW_BH23 | Dec 16, 2019 | | Water | S19-De26662 | X | X | X | X | X | X | | X | | X | X | X | | X | | X |
| 16 | GASW_BH25A | Dec 16, 2019 | | Water | S19-De26663 | X | X | X | X | X | X | | X | | X | X | X | | X | | X |
| 17 | QC01 | Dec 17, 2019 | | Water | S19-De26664 | | | | | | | | | | | | | X | | | |
| 18 | RB01 | Dec 16, 2019 | | Water | S19-De26665 | | | | | | | X | | | | | | | | | |
| 19 | TRIP BLANK | Dec 16, 2019 | | Water | S19-De26666 | | | | | | | | | | | | | | | X | |
| 20 | TRIP SPIKE | Dec 16, 2019 | | Water | S19-De26667 | | | | | | | | | | | | | | | X | |
| **Test Counts** | | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 1 | 16 | 11 | 16 | 16 | 16 | 1 | 16 | 2 | 16 |

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per kilogram

**mg/L:** milligrams per litre

**ug/L:** micrograms per litre

**ppm:** Parts per million

**ppb:** Parts per billion

**%:** Percentage

**org/100mL:** Organisms per 100 millilitres

**NTU:** Nephelometric Turbidity Units

**MPN/100mL:** Most Probable Number of organisms per 100 millilitres

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery. |
| **CRM** | Certified Reference Material - reported as percent recovery. |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **QSM** | US Department of Defense Quality Systems Manual Version 5.3 |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within. |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH >C10-C16 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C10-C14 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Toluene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Ethylbenzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| m&p-Xylenes | mg/L | < 0.002 | | | 0.002 | Pass | |
| o-Xylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Xylenes - Total | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | |
| Acenaphthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Acenaphthylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benz(a)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(g.h.i)perylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chrysene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Dibenz(a.h)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluorene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Naphthalene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Phenanthrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | mg/L | < 0.001 | | | 0.001 | Pass | |
| 4.4'-DDD | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDE | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDT | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Endosulfan I | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan sulphate | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.01 | | | 0.01 | Pass | |
| **Method Blank** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Azinphos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Bolstar | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorfenvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorpyrifos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Chlorpyrifos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Coumaphos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-S | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-O | mg/L | < 0.002 | | | 0.002 | Pass | |
| Diazinon | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dichlorvos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dimethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Disulfoton | mg/L | < 0.002 | | | 0.002 | Pass | |
| EPN | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethoprop | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenitrothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fensulfothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Malathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Merphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Methyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Mevinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Monocrotophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Naled | mg/L | < 0.002 | | | 0.002 | Pass | |
| Omethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Phorate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Pirimiphos-methyl | mg/L | < 0.02 | | | 0.02 | Pass | |
| Pyrazophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ronnel | mg/L | < 0.002 | | | 0.002 | Pass | |
| Terbufos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tetrachlorvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tokuthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Trichloronate | mg/L | < 0.002 | | | 0.002 | Pass | |
| **Method Blank** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1016 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1242 | mg/L | < 0.001 | | | 0.001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Aroclor-1248 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1254 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1260 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Total PCB* | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4.5-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4.6-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.6-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 4-Chloro-3-methylphenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Pentachlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Tetrachlorophenols - Total | mg/L | < 0.03 | | | 0.03 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | mg/L | < 0.1 | | | 0.1 | Pass | |
| 2-Methyl-4.6-dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 2-Methylphenol (o-Cresol) | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2-Nitrophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4-Dimethylphenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | mg/L | < 0.006 | | | 0.006 | Pass | |
| 4-Nitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| Dinoseb | mg/L | < 0.1 | | | 0.1 | Pass | |
| Phenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | | |
| Acenaphthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Acenaphthylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benz(a)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(g.h.i)perylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Chrysene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Dibenz(a.h)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluorene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Naphthalene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Phenanthrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| **Method Blank** | | | | | | | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Chloride | mg/L | < 1 | | | 1 | Pass | |
| Cyanide (total) | mg/L | < 0.004 | | | 0.004 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Sulphate (as SO4) | mg/L | < 5 | | | 5 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | mg/L | < 10 | | | 10 | Pass | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 1 | | | 1 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | mg/L | < 20 | | | 20 | Pass | |
| Carbonate Alkalinity (as CaCO3) | mg/L | < 10 | | | 10 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Magnesium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Potassium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Sodium | mg/L | < 0.5 | | | 0.5 | Pass | |
| **Method Blank** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Mercury (filtered) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Nickel (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Zinc (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | % | 81 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 88 | | | 70-130 | Pass | |
| TRH >C10-C16 | % | 78 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | % | 90 | | | 70-130 | Pass | |
| TRH C10-C14 | % | 84 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | % | 89 | | | 70-130 | Pass | |
| Toluene | % | 91 | | | 70-130 | Pass | |
| Ethylbenzene | % | 86 | | | 70-130 | Pass | |
| m&p-Xylenes | % | 88 | | | 70-130 | Pass | |
| Xylenes - Total | % | 87 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | |
| Acenaphthene | % | 86 | | | 70-130 | Pass | |
| Acenaphthylene | % | 89 | | | 70-130 | Pass | |
| Anthracene | % | 99 | | | 70-130 | Pass | |
| Benz(a)anthracene | % | 76 | | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 83 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 81 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | % | 71 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 83 | | | 70-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Chrysene | % | 77 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | % | 76 | | | 70-130 | Pass | |
| Fluoranthene | % | 104 | | | 70-130 | Pass | |
| Fluorene | % | 90 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | % | 72 | | | 70-130 | Pass | |
| Naphthalene | % | 83 | | | 70-130 | Pass | |
| Phenanthrene | % | 96 | | | 70-130 | Pass | |
| Pyrene | % | 103 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | % | 105 | | | 70-130 | Pass | |
| 4.4'-DDD | % | 99 | | | 70-130 | Pass | |
| 4.4'-DDE | % | 103 | | | 70-130 | Pass | |
| 4.4'-DDT | % | 94 | | | 70-130 | Pass | |
| a-BHC | % | 93 | | | 70-130 | Pass | |
| Aldrin | % | 97 | | | 70-130 | Pass | |
| b-BHC | % | 80 | | | 70-130 | Pass | |
| d-BHC | % | 85 | | | 70-130 | Pass | |
| Dieldrin | % | 93 | | | 70-130 | Pass | |
| Endosulfan I | % | 111 | | | 70-130 | Pass | |
| Endosulfan II | % | 93 | | | 70-130 | Pass | |
| Endosulfan sulphate | % | 79 | | | 70-130 | Pass | |
| Endrin | % | 88 | | | 70-130 | Pass | |
| Endrin aldehyde | % | 85 | | | 70-130 | Pass | |
| Endrin ketone | % | 80 | | | 70-130 | Pass | |
| g-BHC (Lindane) | % | 104 | | | 70-130 | Pass | |
| Heptachlor | % | 85 | | | 70-130 | Pass | |
| Heptachlor epoxide | % | 100 | | | 70-130 | Pass | |
| Hexachlorobenzene | % | 99 | | | 70-130 | Pass | |
| Methoxychlor | % | 110 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Diazinon | % | 91 | | | 70-130 | Pass | |
| Dimethoate | % | 82 | | | 70-130 | Pass | |
| Ethion | % | 115 | | | 70-130 | Pass | |
| Fenitrothion | % | 111 | | | 70-130 | Pass | |
| Methyl parathion | % | 108 | | | 70-130 | Pass | |
| Mevinphos | % | 86 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1260 | % | 77 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | % | 79 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | % | 84 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | % | 74 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | % | 85 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | % | 96 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | % | 88 | | | 30-130 | Pass | |
| Pentachlorophenol | % | 57 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | % | 69 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | % | 31 | | | 30-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| 2-Methyl-4.6-dinitrophenol | % | 44 | | | 30-130 | Pass | |
| 2-Methylphenol (o-Cresol) | % | 86 | | | 30-130 | Pass | |
| 2-Nitrophenol | % | 85 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | % | 123 | | | 30-130 | Pass | |
| 2.4-Dinitrophenol | % | 35 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | % | 87 | | | 30-130 | Pass | |
| 4-Nitrophenol | % | 103 | | | 30-130 | Pass | |
| Dinoseb | % | 49 | | | 30-130 | Pass | |
| Phenol | % | 73 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | % | 78 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | % | 84 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | | |
| Acenaphthene | % | 86 | | | 70-130 | Pass | |
| Acenaphthylene | % | 89 | | | 70-130 | Pass | |
| Anthracene | % | 99 | | | 70-130 | Pass | |
| Benz(a)anthracene | % | 76 | | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 83 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 81 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | % | 71 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 83 | | | 70-130 | Pass | |
| Chrysene | % | 77 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | % | 76 | | | 70-130 | Pass | |
| Fluoranthene | % | 104 | | | 70-130 | Pass | |
| Fluorene | % | 90 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | % | 72 | | | 70-130 | Pass | |
| Naphthalene | % | 83 | | | 70-130 | Pass | |
| Phenanthrene | % | 96 | | | 70-130 | Pass | |
| Pyrene | % | 103 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| Ammonia (as N) | % | 85 | | | 70-130 | Pass | |
| Chloride | % | 99 | | | 70-130 | Pass | |
| Cyanide (total) | % | 111 | | | 70-130 | Pass | |
| Nitrate (as N) | % | 92 | | | 70-130 | Pass | |
| Sulphate (as SO4) | % | 97 | | | 70-130 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | % | 82 | | | 70-130 | Pass | |
| Total Suspended Solids Dried at 103–105°C | % | 111 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Carbonate Alkalinity (as CaCO3) | % | 97 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | % | 98 | | | 70-130 | Pass | |
| Magnesium | % | 96 | | | 70-130 | Pass | |
| Potassium | % | 98 | | | 70-130 | Pass | |
| Sodium | % | 91 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | % | 100 | | | 80-120 | Pass | |
| Cadmium | % | 99 | | | 80-120 | Pass | |

| Test | | | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | | | % | 98 | | | 80-120 | Pass | |
| Copper | | | % | 99 | | | 80-120 | Pass | |
| Lead | | | % | 102 | | | 80-120 | Pass | |
| Mercury | | | % | 102 | | | 75-125 | Pass | |
| Nickel | | | % | 98 | | | 80-120 | Pass | |
| Zinc | | | % | 99 | | | 80-120 | Pass | |
| **Test** | **Lab Sample ID** | **QA Source** | **Units** | **Result 1** | | | **Acceptance Limits** | **Pass Limits** | **Qualifying Code** |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Calcium | S19-De26648 | CP | % | 76 | | | 70-130 | Pass | |
| Magnesium | S19-De26648 | CP | % | 80 | | | 70-130 | Pass | |
| Sodium | S19-De26648 | CP | % | 82 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | S19-De26648 | CP | % | 95 | | | 70-130 | Pass | |
| Cadmium (filtered) | S19-De26648 | CP | % | 88 | | | 70-130 | Pass | |
| Chromium (filtered) | S19-De26648 | CP | % | 91 | | | 70-130 | Pass | |
| Copper (filtered) | S19-De26648 | CP | % | 91 | | | 70-130 | Pass | |
| Lead (filtered) | S19-De26648 | CP | % | 94 | | | 70-130 | Pass | |
| Manganese (filtered) | S19-De26648 | CP | % | 73 | | | 70-130 | Pass | |
| Mercury (filtered) | S19-De26648 | CP | % | 81 | | | 70-130 | Pass | |
| Nickel (filtered) | S19-De26648 | CP | % | 90 | | | 70-130 | Pass | |
| Zinc (filtered) | S19-De26648 | CP | % | 91 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Chloride | S19-De26655 | CP | % | 103 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | Result 1 | | | | | |
| Acenaphthene | S19-De26656 | CP | % | 87 | | | 70-130 | Pass | |
| Acenaphthylene | S19-De26656 | CP | % | 95 | | | 70-130 | Pass | |
| Anthracene | S19-De26656 | CP | % | 92 | | | 70-130 | Pass | |
| Benz(a)anthracene | S19-De26656 | CP | % | 71 | | | 70-130 | Pass | |
| Benzo(a)pyrene | S19-De26656 | CP | % | 96 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S19-De26656 | CP | % | 94 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | S19-De26656 | CP | % | 73 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | S19-De26656 | CP | % | 100 | | | 70-130 | Pass | |
| Chrysene | S19-De26656 | CP | % | 78 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | S19-De26656 | CP | % | 74 | | | 70-130 | Pass | |
| Fluoranthene | S19-De26656 | CP | % | 90 | | | 70-130 | Pass | |
| Fluorene | S19-De26656 | CP | % | 98 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | S19-De26656 | CP | % | 75 | | | 70-130 | Pass | |
| Naphthalene | S19-De26656 | CP | % | 71 | | | 70-130 | Pass | |
| Phenanthrene | S19-De26656 | CP | % | 82 | | | 70-130 | Pass | |
| Pyrene | S19-De26656 | CP | % | 89 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | | | | | |
| 2-Chlorophenol | S19-De26656 | CP | % | 75 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | S19-De26656 | CP | % | 82 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | S19-De26656 | CP | % | 82 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | S19-De26656 | CP | % | 75 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | S19-De26656 | CP | % | 80 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | S19-De26656 | CP | % | 85 | | | 30-130 | Pass | |
| Pentachlorophenol | S19-De26656 | CP | % | 63 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | S19-De26656 | CP | % | 114 | | | 30-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | S19-De26656 | CP | % | 76 | | | 30-130 | Pass | |
| 2-Methyl-4.6-dinitrophenol | S19-De26656 | CP | % | 37 | | | 30-130 | Pass | |
| 2-Methylphenol (o-Cresol) | S19-De26656 | CP | % | 82 | | | 30-130 | Pass | |
| 2-Nitrophenol | S19-De26656 | CP | % | 86 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | S19-De26656 | CP | % | 123 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | S19-De26656 | CP | % | 82 | | | 30-130 | Pass | |
| Dinoseb | S19-De26656 | CP | % | 85 | | | 30-130 | Pass | |
| Phenol | S19-De26656 | CP | % | 56 | | | 30-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | Result 1 | | | | | |
| Acenaphthene | S19-De26656 | CP | % | 87 | | | 70-130 | Pass | |
| Acenaphthylene | S19-De26656 | CP | % | 95 | | | 70-130 | Pass | |
| Anthracene | S19-De26656 | CP | % | 92 | | | 70-130 | Pass | |
| Benz(a)anthracene | S19-De26656 | CP | % | 71 | | | 70-130 | Pass | |
| Benzo(a)pyrene | S19-De26656 | CP | % | 96 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S19-De26656 | CP | % | 94 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | S19-De26656 | CP | % | 73 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | S19-De26656 | CP | % | 100 | | | 70-130 | Pass | |
| Chrysene | S19-De26656 | CP | % | 78 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | S19-De26656 | CP | % | 74 | | | 70-130 | Pass | |
| Fluoranthene | S19-De26656 | CP | % | 90 | | | 70-130 | Pass | |
| Fluorene | S19-De26656 | CP | % | 98 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | S19-De26656 | CP | % | 75 | | | 70-130 | Pass | |
| Naphthalene | S19-De26656 | CP | % | 71 | | | 70-130 | Pass | |
| Phenanthrene | S19-De26656 | CP | % | 82 | | | 70-130 | Pass | |
| Pyrene | S19-De26656 | CP | % | 89 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ammonia (as N) | S19-De26657 | CP | % | 99 | | | 70-130 | Pass | |
| Nitrate (as N) | S19-De26657 | CP | % | 86 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | S19-De26658 | CP | % | 92 | | | 70-130 | Pass | |
| Cadmium (filtered) | S19-De26658 | CP | % | 89 | | | 70-130 | Pass | |
| Chromium (filtered) | S19-De26658 | CP | % | 92 | | | 70-130 | Pass | |
| Copper (filtered) | S19-De26658 | CP | % | 91 | | | 70-130 | Pass | |
| Lead (filtered) | S19-De26658 | CP | % | 94 | | | 70-130 | Pass | |
| Mercury (filtered) | S19-De26658 | CP | % | 91 | | | 70-130 | Pass | |
| Nickel (filtered) | S19-De26658 | CP | % | 89 | | | 70-130 | Pass | |
| Zinc (filtered) | S19-De26658 | CP | % | 91 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ammonia (as N) | S19-De26660 | CP | % | 97 | | | 70-130 | Pass | |
| Nitrate (as N) | S19-De26660 | CP | % | 93 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | S19-De26663 | CP | % | 72 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | S19-De26663 | CP | % | 92 | | | 70-130 | Pass | |
| **Test** | **Lab Sample ID** | **QA Source** | **Units** | **Result 1** | | | **Acceptance Limits** | **Pass Limits** | **Qualifying Code** |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | S19-De26648 | CP | mg/L | 2800 | 2700 | 5.0 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | S19-De26648 | CP | mg/L | 33 | 37 | 11 | 30% | Pass | |
| Magnesium | S19-De26648 | CP | mg/L | 30 | 33 | 11 | 30% | Pass | |
| Potassium | S19-De26648 | CP | mg/L | 5.0 | 5.0 | 1.0 | 30% | Pass | |
| Sodium | S19-De26648 | CP | mg/L | 78 | 87 | 12 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | S19-De26648 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium (filtered) | S19-De26648 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | S19-De26648 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | S19-De26648 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead (filtered) | S19-De26648 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | S19-De26648 | CP | mg/L | 0.19 | 0.20 | 1.0 | 30% | Pass | |
| Mercury (filtered) | S19-De26648 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | S19-De26648 | CP | mg/L | 0.009 | 0.009 | 1.0 | 30% | Pass | |
| Zinc (filtered) | S19-De26648 | CP | mg/L | 0.012 | 0.011 | 5.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | S19-De26650 | CP | mg/L | 62 | 62 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 | S19-De26651 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C14 | S19-De26651 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 (after silica gel clean-up) | S19-De26651 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C10-C14 (after silica gel clean-up) | S19-De26651 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 (after silica gel clean-up) | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 (after silica gel clean-up) | S19-De26651 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ferrous Iron - Fe2+ | S19-De26651 | CP | mg/L | 5.4 | 5.5 | 2.0 | 30% | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | S19-De26651 | CP | mg/L | 250 | 290 | 16 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 | S19-De26652 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C14 | S19-De26652 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 (after silica gel clean-up) | S19-De26652 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C10-C14 (after silica gel clean-up) | S19-De26652 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 (after silica gel clean-up) | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 (after silica gel clean-up) | S19-De26652 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Acenaphthylene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Anthracene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benz(a)anthracene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Chrysene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluoranthene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Fluorene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Naphthalene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Phenanthrene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Pyrene | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | S19-De26655 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| 4.4'-DDD | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDE | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDT | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| a-BHC | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Aldrin | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| b-BHC | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| d-BHC | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Dieldrin | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan I | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan II | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan sulphate | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin aldehyde | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin ketone | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| g-BHC (Lindane) | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor epoxide | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Hexachlorobenzene | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Methoxychlor | S19-De26655 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Azinphos-methyl | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Bolstar | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorfenvinphos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorpyrifos | S19-De26655 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Chlorpyrifos-methyl | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Coumaphos | S19-De26655 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-S | S19-De26655 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-O | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Diazinon | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dichlorvos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dimethoate | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Disulfoton | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| EPN | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethoprop | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethyl parathion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenitrothion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fensulfothion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenthion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Malathion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Merphos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Methyl parathion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Mevinphos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Monocrotophos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Naled | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Omethoate | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Phorate | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Pirimiphos-methyl | S19-De26655 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Pyrazophos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ronnel | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Terbufos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tetrachlorvinphos | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tokuthion | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Trichloronate | S19-De26655 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Chlorophenol | S19-De26655 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dichlorophenol | S19-De26655 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4.5-Trichlorophenol | S19-De26655 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4.6-Trichlorophenol | S19-De26655 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.6-Dichlorophenol | S19-De26655 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 4-Chloro-3-methylphenol | S19-De26655 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Pentachlorophenol | S19-De26655 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Tetrachlorophenols - Total | S19-De26655 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |

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|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | S19-De26655 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 2-Methyl-4.6-dinitrophenol | S19-De26655 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 2-Methylphenol (o-Cresol) | S19-De26655 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2-Nitrophenol | S19-De26655 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4-Dimethylphenol | S19-De26655 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dinitrophenol | S19-De26655 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | S19-De26655 | CP | mg/L | < 0.006 | < 0.006 | <1 | 30% | Pass | |
| 4-Nitrophenol | S19-De26655 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| Dinoseb | S19-De26655 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Phenol | S19-De26655 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Acenaphthylene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Anthracene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benz(a)anthracene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Chrysene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluoranthene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluorene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Naphthalene | S19-De26655 | CP | mg/L | 0.00001 | 0.00001 | 13 | 30% | Pass | |
| Phenanthrene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Pyrene | S19-De26655 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | S19-De26655 | CP | mg/L | < 0.004 | < 0.004 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | S19-De26657 | CP | mg/L | 0.06 | 0.04 | 40 | 30% | Fail | Q15 |
| Nitrate (as N) | S19-De26657 | CP | mg/L | 2.4 | 2.4 | 1.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | S19-De26658 | CP | mg/L | 9.6 | 7.2 | 29 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | S19-De26658 | CP | mg/L | 13 | 12 | 7.0 | 30% | Pass | |
| Magnesium | S19-De26658 | CP | mg/L | 10 | 9.7 | 4.0 | 30% | Pass | |
| Potassium | S19-De26658 | CP | mg/L | 3.5 | 3.1 | 11 | 30% | Pass | |
| Sodium | S19-De26658 | CP | mg/L | 21 | 20 | 4.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | S19-De26658 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium (filtered) | S19-De26658 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | S19-De26658 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | S19-De26658 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead (filtered) | S19-De26658 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | S19-De26658 | CP | mg/L | 2.3 | 2.4 | 3.0 | 30% | Pass | |
| Mercury (filtered) | S19-De26658 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Nickel (filtered) | S19-De26658 | CP | mg/L | 0.006 | 0.006 | 4.0 | 30% | Pass | |
| Zinc (filtered) | S19-De26658 | CP | mg/L | 0.010 | 0.010 | 1.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | S19-De26660 | CP | mg/L | 64 | 63 | 1.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ferrous Iron - Fe2+ | S19-De26661 | CP | mg/L | 3.8 | 3.7 | 3.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | S19-De26663 | CP | mg/L | 0.074 | 0.091 | 21 | 30% | Pass | |

## Comments

## Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

## Qualifier Codes/Comments

| Code | Description |
|---|---|
| N01 | F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). |
| N02 | Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid. |
| N04 | F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. |
| N07 | Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs |
| Q15 | The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report. |
| R20 | This sample is a Trip Spike and therefore all results are reported as a percentage |

## Authorised By

| | |
|---|---|
| Alena Bounkeua | Analytical Services Manager |
| Emily Rosenberg | Senior Analyst-Metal (VIC) |
| Harry Bacalis | Senior Analyst-Volatile (VIC) |
| Joseph Edouard | Senior Analyst-Organic (VIC) |
| Julie Kay | Senior Analyst-Inorganic (VIC) |
| Scott Beddoes | Senior Analyst-Inorganic (VIC) |



**Glenn Jackson**
**General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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Email: enquiries.melb@mgtlabmark.com.au


# CHAIN OF CUSTODY RECORD

**CLIENT DETAILS** 

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2019 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

**Analytes**

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) Trace Level PAHs | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (Suite B7) Trace Level PAHs | | Ferrous Iron | Manganese | pH | TDS | TSS | | | | | Containers: 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag | Sample comments: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CSM_BH02 | 21/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 2 | CSM_BH04 | 21/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| ~~3~~ | ~~CSM_BH06~~ | | ~~Water~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | | |
| 4 | CSM_BH08 | 21/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 5 | CSM_BH09S | 22/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 6 | CSM_BH10S | 20/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 7 | SRT_BH047 | 20/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 8 | SRT_BH052 | 20/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 9 | SRT_BH059 | 20/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| ~~10~~ | ~~SRT_BH063~~ | | ~~Water~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | | |
| ~~11~~ | ~~SRT_CBH015~~ | | ~~Water~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | ~~X~~ | | | | | | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | | |
| 12 | SRT_CBH017 | 20/1/20 | Water | X | X | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 13 | GASW_BH7 | 22/1/20 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 14 | GASW_BH10 | 21/1/20 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 15 | GASW_BH11 | 22/1/20 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |
| 16 | GASW_BH23 | 22/1/20 | Water | X | | X | X | X | X | | | | | | X | X | X | X | X | | | | | | 1 | | 4 | | 2 | 2 | | | |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Laboratory Staff**

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 22/1/2020
**Signature:**

**Received By:** Rupan
**Date & Time :** 22/01/20 1:56 PM
**Signature:**

**Turn around time**

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

**Method Of Shipment**

☐ Courier
☑ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:** 2.4°C

**Report number:** 698379

Adlis 24/1/19

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Email: enquiries.melb@mgtlabmark.com.au


# CHAIN OF CUSTODY RECORD



**CLIENT DETAILS**

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2019 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

**Analytes**

| | Sample ID | Date | Matrix | TRH, BTEX, PAH, 8 Metals (Dissolved), Phenols (Suite B7A) | Trace Level PAHs | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | | TRH C6-C10 / BTEX | 8 Metals (Total) | TRH, BTEX, PAH, 8 Metals (Dissolved) (Suite B7) | Trace Level PAHs | | Ferrous Iron | Manganese | pH | TDS | TSS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GASW_BH25a | 22/1/20 | Water | X | | | X | X | X | X | | | | | | | X | X | X | X | X |
| ~~2~~ | ~~QC01~~ | ~~22/1/20~~ | ~~Water~~ | ~~PLEASE SEND TO ALS WITH ATTACHED COC~~ | | | | | | | | | | | | | | | | | |
| 3 | QC02 | 21/1/20 | Water | | | | | | | | | | | X | | | | | | | |
| 4 | RB01 | 21/1/20 | Water | | | | | | | | | | X | | | | | | | | |
| 5 | Trip Blank | 20/1/20 | Water | | | | | | | | | X | | | | | | | | | |
| 6 | Trip Spike | 20/1/20 | Water | | | | | | | | | X | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Containers:**

| | 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 4 | | 2 | 2 | | |
| ~~2~~ | ~~1~~ | | ~~4~~ | | ~~2~~ | ~~2~~ | | |
| 3 | 1 | | 4 | | 2 | 2 | | |
| 4 | | | 1 | | | | | |
| 5 | | | | | 2 | | | |
| 6 | | | | | 2 | | | |

**Sample comments:**

**Laboratory Staff**

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 22/1/2020
**Signature:**

**Received By:** Rupam
**Date & Time :** 22/01/20
**Signature:**

**Turn around time**

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

**Method Of Shipment**

☐ Courier
☒ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:**

**Report number:** 698379

eurofins | Environment Testing

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Site # 1254 & 14271

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NATA # 1261 Site # 20794

**Perth**
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

| | |
|---|---|
| Company name: | **GHD Pty Ltd NSW** |
| Contact name: | Henry Luo |
| Project name: | CENTRAL |
| Project ID: | 21-27234 |
| COC number: | Not provided |
| Turn around time: | 5 Day |
| Date/Time received: | Jan 22, 2020 1:56 PM |
| Eurofins reference: | **698379** |

## Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 2.4 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

## Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Henry Luo - henry.luo@ghd.com.

**GHD Pty Ltd NSW**
**Level 15, 133 Castlereagh Street**
**Sydney**
**NSW 2000**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 1254**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Henry Luo**

**Report** **698379-W-V3**
Project name CENTRAL
Project ID 21-27234
Received Date Jan 22, 2020

| **Client Sample ID** | | | **CSM_BH02** | **CSM_BH04** | **CSM_BH08** | **CSM_BH09S** |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** | **Water** | **Water** |
| **Eurofins Sample No.** | | | **M20-Ja23234** | **M20-Ja23235** | **M20-Ja23236** | **M20-Ja23237** |
| **Date Sampled** | | | **Jan 21, 2020** | **Jan 21, 2020** | **Jan 21, 2020** | **Jan 21, 2020** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 88 | 85 | 118 | 90 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH08 | CSM_BH09S |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23234 | M20-Ja23235 | M20-Ja23236 | M20-Ja23237 |
| Date Sampled | | | Jan 21, 2020 | Jan 21, 2020 | Jan 21, 2020 | Jan 21, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 127 | 130 | 120 | 125 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 78 | 78 | 103 | 121 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH08 | CSM_BH09S |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23234 | M20-Ja23235 | M20-Ja23236 | M20-Ja23237 |
| Date Sampled | | | Jan 21, 2020 | Jan 21, 2020 | Jan 21, 2020 | Jan 21, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 109 | 109 | 100 | 140 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 127 | 130 | 120 | 125 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 78 | 78 | 103 | 121 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 118 | 94 | 71 | 135 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH08 | CSM_BH09S |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23234 | M20-Ja23235 | M20-Ja23236 | M20-Ja23237 |
| Date Sampled | | | Jan 21, 2020 | Jan 21, 2020 | Jan 21, 2020 | Jan 21, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | 0.00006 | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | 0.00006 | < 0.00001 | < 0.00001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 142 | 115 | 94 | 149 |
| p-Terphenyl-d14 (surr.) | 1 | % | 130 | 128 | 133 | 95 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.02 | 0.02 | < 0.01 | 0.05 |
| Chloride | 1 | mg/L | 180 | 95 | 160 | 46 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 1.3 | 8.2 | 5.6 | 7.5 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 4.8 | 6.3 | 6.4 | 6.1 |
| Sulphate (as SO4) | 5 | mg/L | 28 | 44 | 47 | 160 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 560 | 310 | 260 | 340 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 2200 | 880 | 10 | 28 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 320 | 100 | 110 | 77 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 41 | 180 | 9.5 | 3.7 |
| Magnesium | 0.5 | mg/L | 37 | 190 | 14 | 6.2 |
| Potassium | 0.5 | mg/L | 11 | 170 | 3.1 | 2.6 |
| Sodium | 0.5 | mg/L | 120 | 230 | 68 | 97 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.001 | 0.002 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.26 | 0.37 | 0.31 | 0.71 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.027 | 0.007 | 0.003 | 0.004 |
| Zinc (filtered) | 0.005 | mg/L | 0.010 | 0.041 | 0.022 | 0.023 |

| Client Sample ID | | | CSM_BH10S | SRT_BH047 | SRT_BH052 | SRT_BH059 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23238 | M20-Ja23239 | M20-Ja23240 | M20-Ja23241 |
| Date Sampled | | | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 83 | 88 | 86 | 85 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 87 | 87 | 135 | 108 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 113 | 79 | 110 | 86 |

| Client Sample ID | | | CSM_BH10S | SRT_BH047 | SRT_BH052 | SRT_BH059 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23238 | M20-Ja23239 | M20-Ja23240 | M20-Ja23241 |
| Date Sampled | | | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 108 | 77 | 109 | 87 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 87 | 87 | 135 | 108 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 113 | 79 | 110 | 86 |

| Client Sample ID | | | CSM_BH10S | SRT_BH047 | SRT_BH052 | SRT_BH059 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23238 | M20-Ja23239 | M20-Ja23240 | M20-Ja23241 |
| Date Sampled | | | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 109 | 68 | 72 | 67 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |

| Client Sample ID | | | CSM_BH10S | SRT_BH047 | SRT_BH052 | SRT_BH059 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23238 | M20-Ja23239 | M20-Ja23240 | M20-Ja23241 |
| Date Sampled | | | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 | Jan 20, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| 2-Fluorobiphenyl (surr.) | 1 | % | 120 | 82 | 112 | 102 |
| p-Terphenyl-d14 (surr.) | 1 | % | 108 | 105 | 128 | 141 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.02 | 0.03 | 0.02 | < 0.01 |
| Chloride | 1 | mg/L | 16 | 60 | 78 | 59 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | < 0.05 | < 0.05 | 0.16 | < 0.05 |
| Nitrate (as N) | 0.02 | mg/L | 0.93 | 22 | 5.6 | 6.1 |
| pH (at 25°C) | 0.1 | pH Units | 6.0 | 7.7 | 6.9 | 6.4 |
| Sulphate (as SO4) | 5 | mg/L | 55 | 11 | 35 | 20 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 160 | 340 | 270 | 220 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 77 | 1700 | 54 | 7.5 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | < 20 | 240 | 81 | 180 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 2.9 | 49 | 49 | 63 |
| Magnesium | 0.5 | mg/L | 4.6 | 9.7 | 5.1 | 6.3 |
| Potassium | 0.5 | mg/L | 2.1 | 0.8 | 1.5 | 7.6 |
| Sodium | 0.5 | mg/L | 27 | 26 | 37 | 7.8 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.003 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | 0.004 | 0.001 | 0.002 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.49 | < 0.005 | < 0.005 | < 0.005 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |

| Client Sample ID | | | SRT_CBH017 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23242 | M20-Ja23243 | M20-Ja23244 | M20-Ja23245 |
| Date Sampled | | | Jan 20, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 22, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | 0.09 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | 0.05 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | 0.22 | < 0.05 | 0.22 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | 0.22 | < 0.05 | 0.22 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.22 | < 0.1 | 0.22 |

| Client Sample ID | | | SRT_CBH017 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23242 | M20-Ja23243 | M20-Ja23244 | M20-Ja23245 |
| Date Sampled | | | Jan 20, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 22, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | 0.08 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | 0.05 | < 0.05 | 0.10 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | 0.1 | < 0.1 | 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.15 | < 0.1 | 0.2 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 0.042 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 86 | 101 | 102 | 89 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | - | - | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | - | - | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | - | - | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | - | - | - |
| a-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | - | - | - |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | - | - | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | - | - | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | - | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibutylchlorendate (surr.) | 1 | % | 132 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 115 | - | - | - |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | - | - | - |
| Bolstar | 0.002 | mg/L | < 0.002 | - | - | - |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | - | - | - |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | - | - | - |
| Coumaphos | 0.02 | mg/L | < 0.02 | - | - | - |
| Demeton-S | 0.02 | mg/L | < 0.02 | - | - | - |

| Client Sample ID | | | SRT_CBH017 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23242 | M20-Ja23243 | M20-Ja23244 | M20-Ja23245 |
| Date Sampled | | | Jan 20, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 22, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Demeton-O | 0.002 | mg/L | < 0.002 | - | - | - |
| Diazinon | 0.002 | mg/L | < 0.002 | - | - | - |
| Dichlorvos | 0.002 | mg/L | < 0.002 | - | - | - |
| Dimethoate | 0.002 | mg/L | < 0.002 | - | - | - |
| Disulfoton | 0.002 | mg/L | < 0.002 | - | - | - |
| EPN | 0.002 | mg/L | < 0.002 | - | - | - |
| Ethion | 0.002 | mg/L | < 0.002 | - | - | - |
| Ethoprop | 0.002 | mg/L | < 0.002 | - | - | - |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | - | - | - |
| Fenitrothion | 0.002 | mg/L | < 0.002 | - | - | - |
| Fensulfothion | 0.002 | mg/L | < 0.002 | - | - | - |
| Fenthion | 0.002 | mg/L | < 0.002 | - | - | - |
| Malathion | 0.002 | mg/L | < 0.002 | - | - | - |
| Merphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Methyl parathion | 0.002 | mg/L | < 0.002 | - | - | - |
| Mevinphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Monocrotophos | 0.002 | mg/L | < 0.002 | - | - | - |
| Naled | 0.002 | mg/L | < 0.002 | - | - | - |
| Omethoate | 0.002 | mg/L | < 0.002 | - | - | - |
| Phorate | 0.002 | mg/L | < 0.002 | - | - | - |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | - | - | - |
| Pyrazophos | 0.002 | mg/L | < 0.002 | - | - | - |
| Ronnel | 0.002 | mg/L | < 0.002 | - | - | - |
| Terbufos | 0.002 | mg/L | < 0.002 | - | - | - |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Tokuthion | 0.002 | mg/L | < 0.002 | - | - | - |
| Trichloronate | 0.002 | mg/L | < 0.002 | - | - | - |
| Triphenylphosphate (surr.) | 1 | % | 99 | - | - | - |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | - | - | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibutylchlorendate (surr.) | 1 | % | 132 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 115 | - | - | - |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |

| Client Sample ID | | | SRT_CBH017 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23242 | M20-Ja23243 | M20-Ja23244 | M20-Ja23245 |
| Date Sampled | | | Jan 20, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 22, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | 0.011 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 93 | 56 | 58 | 108 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | 0.00006 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | 0.00017 | 0.00005 | 0.00004 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | 0.00023 | 0.00005 | 0.00004 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 127 | 72 | 78 | 132 |
| p-Terphenyl-d14 (surr.) | 1 | % | 95 | 95 | 77 | 135 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.01 | 0.04 | 0.01 | 0.02 |
| Chloride | 1 | mg/L | 85 | 100 | 910 | 81 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 0.64 | 12 | 19 | 1.6 |
| Nitrate (as N) | 0.02 | mg/L | 0.03 | < 0.02 | < 0.02 | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 6.2 | 3.7 | 6.8 | 6.1 |
| Sulphate (as SO4) | 5 | mg/L | 34 | 150 | < 5 | 52 |

| Client Sample ID | | | SRT_CBH017 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23242 | M20-Ja23243 | M20-Ja23244 | M20-Ja23245 |
| Date Sampled | | | Jan 20, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 22, 2020 |
| Test/Reference | LOR | Unit | | | | |
| | | | | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 200 | 550 | 890 | 180 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 49 | 33 | 170 | 120 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 110 | < 20 | 560 | 38 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 12 | 3.8 | 110 | 7.7 |
| Magnesium | 0.5 | mg/L | 10 | 3.9 | 72 | 4.7 |
| Potassium | 0.5 | mg/L | 2.8 | 0.6 | 17 | 1.6 |
| Sodium | 0.5 | mg/L | 20 | 57 | 150 | 38 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.014 | 0.009 | < 0.001 | 0.002 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | 0.003 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 3.6 | 0.10 | 0.70 | 0.15 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.011 | 0.001 | 0.029 | < 0.001 |
| Zinc (filtered) | 0.005 | mg/L | 0.074 | 0.041 | 0.013 | 0.021 |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25A | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23246 | M20-Ja23247 | M20-Ja23248 | M20-Ja23249 |
| Date Sampled | | | Jan 22, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 21, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.5 | < 4 | < 0.01 | - |
| TRH C6-C10 | 0.02 | mg/L | 1.5 | 52 | < 0.02 | - |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | - | 11 | < 0.02 | - |
| TRH >C10-C16 | 0.05 | mg/L | 0.11 | 0.52 | < 0.05 | - |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.5 | < 4 | < 0.05 | - |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | 0.2 | - |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | - |
| TRH >C10-C40 (total)* | 0.1 | mg/L | 0.11 | 0.52 | 0.2 | - |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | 1.5 | 52 | < 0.02 | - |
| TRH C10-C14 | 0.05 | mg/L | 0.20 | 0.53 | < 0.05 | - |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | 0.2 | 0.1 | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | - |
| TRH C10-C36 (Total) | 0.1 | mg/L | 0.2 | 0.73 | 0.1 | - |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | 1.5 | 30 | < 0.001 | - |
| Toluene | 0.001 | mg/L | 0.053 | 11 | < 0.001 | - |
| Ethylbenzene | 0.001 | mg/L | < 0.05 | < 0.4 | < 0.001 | - |
| m&p-Xylenes | 0.002 | mg/L | < 0.1 | < 0.8 | < 0.002 | - |
| o-Xylene | 0.001 | mg/L | < 0.05 | < 0.4 | < 0.001 | - |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25A | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23246 | M20-Ja23247 | M20-Ja23248 | M20-Ja23249 |
| Date Sampled | | | Jan 22, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 21, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **BTEX** | | | | | | |
| Xylenes - Total | 0.003 | mg/L | < 0.15 | < 1.2 | < 0.003 | - |
| 4-Bromofluorobenzene (surr.) | 1 | % | 89 | 87 | 88 | - |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | 0.007 | - | - |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | 0.008 | - | - |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | 0.011 | - | - |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| Phenol | 0.003 | mg/L | 0.037 | 0.011 | - | - |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| Phenol-d6 (surr.) | 1 | % | 73 | 96 | - | - |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | 0.05 | 0.15 | - | - |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | 0.22 | - | - |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | 0.09 | 0.22 | - | - |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | 0.00015 | 0.0011 | < 0.00001 | - |
| Acenaphthylene | 0.00001 | mg/L | 0.00001 | 0.00050 | < 0.00001 | - |
| Anthracene | 0.00001 | mg/L | 0.00005 | 0.00087 | < 0.00001 | - |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | 0.00019 | < 0.00001 | - |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | 0.00007 | < 0.00001 | - |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | 0.00006 | < 0.00001 | - |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | 0.00002 | < 0.00001 | - |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | 0.00006 | < 0.00001 | - |
| Chrysene | 0.00001 | mg/L | < 0.00001 | 0.00018 | < 0.00001 | - |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | - |
| Fluoranthene | 0.00001 | mg/L | 0.00008 | 0.00079 | < 0.00001 | - |
| Fluorene | 0.00001 | mg/L | 0.00018 | 0.0019 | < 0.00001 | - |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | 0.00002 | < 0.00001 | - |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25A | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Ja23246 | M20-Ja23247 | M20-Ja23248 | M20-Ja23249 |
| Date Sampled | | | Jan 22, 2020 | Jan 22, 2020 | Jan 21, 2020 | Jan 21, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Naphthalene | 0.00001 | mg/L | 0.00049 | 0.020 | 0.0010 | - |
| Phenanthrene | 0.00001 | mg/L | 0.00008 | 0.0026 | 0.00017 | - |
| Pyrene | 0.00001 | mg/L | 0.00009 | 0.00098 | 0.00008 | - |
| Total PAH* | 0.00001 | mg/L | 0.00113 | 0.02934 | 0.00125 | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | 91 | 111 | 67 | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 114 | 132 | 86 | - |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.72 | 0.23 | - | - |
| Chloride | 1 | mg/L | 21 | 15 | - | - |
| Cyanide (total) | 0.004 | mg/L | 0.012 | 0.16 | - | - |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 3.0 | 0.95 | - | - |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | < 0.02 | - | - |
| pH (at 25°C) | 0.1 | pH Units | 8.1 | 6.6 | - | - |
| Sulphate (as SO4) | 5 | mg/L | 270 | 130 | - | - |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 580 | 430 | - | - |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 10 | 130 | - | - |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 3000 | 180 | - | - |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | - | - |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 130 | 84 | - | - |
| Magnesium | 0.5 | mg/L | 11 | 5.9 | - | - |
| Potassium | 0.5 | mg/L | 12 | 6.1 | - | - |
| Sodium | 0.5 | mg/L | 32 | 20 | - | - |
| **Heavy Metals** | | | | | | |
| Arsenic | 0.001 | mg/L | - | - | - | < 0.001 |
| Arsenic (filtered) | 0.001 | mg/L | 0.005 | 0.012 | < 0.001 | - |
| Cadmium | 0.0002 | mg/L | - | - | - | < 0.0002 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | - |
| Chromium | 0.001 | mg/L | - | - | - | < 0.001 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Copper | 0.001 | mg/L | - | - | - | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Lead | 0.001 | mg/L | - | - | - | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | 0.001 | < 0.001 | < 0.001 | - |
| Manganese (filtered) | 0.005 | mg/L | 0.28 | 0.091 | - | - |
| Mercury | 0.0001 | mg/L | - | - | - | < 0.0001 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Nickel | 0.001 | mg/L | - | - | - | < 0.001 |
| Nickel (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.008 | - |
| Zinc | 0.005 | mg/L | - | - | - | < 0.005 |
| Zinc (filtered) | 0.005 | mg/L | 0.14 | < 0.005 | 0.041 | - |

| Client Sample ID | | | TRIP BLANK | [R20]TRIP SPIKE |
|---|---|---|---|---|
| Sample Matrix | | | Water | Water |
| Eurofins Sample No. | | | M20-Ja23250 | M20-Ja23251 |
| Date Sampled | | | Jan 20, 2020 | Jan 20, 2020 |
| Test/Reference | LOR | Unit | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | 100 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | 88 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | - |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | 89 |
| **BTEX** | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 82 |
| Toluene | 0.001 | mg/L | < 0.001 | 80 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | 77 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | 80 |
| o-Xylene | 0.001 | mg/L | < 0.001 | 84 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | 82 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 89 | 95 |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Total Recoverable Hydrocarbons | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Eurofins \| mgt Suite B7 (filtered metals/PAH trace level) | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Jan 28, 2020 | |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Melbourne | Jan 28, 2020 | 14 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Polycyclic Aromatic Hydrocarbons (Trace level) | Melbourne | Feb 05, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace) | | | |
| Metals M8 filtered | Melbourne | Jan 28, 2020 | 28 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Eurofins \| mgt Suite B15 | | | |
| Organochlorine Pesticides | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) | | | |
| Organophosphorus Pesticides | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081) | | | |
| Polychlorinated Biphenyls | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082) | | | |
| Eurofins \| mgt Suite B7A (filtered metals) | | | |
| Phenols (Halogenated) | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (non-Halogenated) | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A | | | |
| Major Cations | | | |
| Ammonia (as N) | Melbourne | Jan 28, 2020 | 28 Days |
| - Method: LTM-INO-4200 Ammonia by Discrete Analyser | | | |
| Alkali Metals | Melbourne | Jan 28, 2020 | 180 Days |
| - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES | | | |
| Major Anions | | | |
| Chloride | Melbourne | Jan 28, 2020 | 28 Days |
| - Method: LTM-INO-4090 Chloride by Discrete Analyser | | | |
| Nitrate (as N) | Melbourne | Jan 28, 2020 | 28 Days |
| - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | | | |
| Sulphate (as SO4) | Melbourne | Jan 28, 2020 | 28 Days |
| - Method: LTM-INO-4110 Sulfate by Discrete Analyser | | | |
| Alkalinity (speciated) | Melbourne | Jan 28, 2020 | 14 Days |
| - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | | | |
| Cyanide (total) | Melbourne | Jan 28, 2020 | 14 Days |
| - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA | | | |
| Ferrous Iron - Fe2+ | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser | | | |
| pH (at 25°C) | Melbourne | Jan 28, 2020 | 0 Hours |

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| - Method: LTM-GEN-7090 pH in water by ISE | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-INO-4170 Total Dissolved Solids in Water | | | |
| Total Suspended Solids Dried at 103–105°C | Melbourne | Jan 28, 2020 | 7 Days |
| - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | | | |
| Metals M8 | Melbourne | Jan 28, 2020 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Heavy Metals (filtered) | Melbourne | Jan 29, 2020 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |

eurofins | Environment Testing

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**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:**
**Report #:** 698379
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Jan 22, 2020 1:56 PM
**Due:** Jan 30, 2020
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Eurofins \| mgt Suite B15 | Major Anions | Major Cations | TRH (after Silica Gel cleanup) | Total Recoverable Hydrocarbons | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B7A (filtered metals) | BTEXN and Volatile TRH | Polycyclic Aromatic Hydrocarbons (Trace level) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | | | |
| **External Laboratory** | | | | | | | | | | | | | | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | | | | | | | | | | | | | | |
| 1 | CSM_BH02 | Jan 21, 2020 | | Water | M20-Ja23234 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 2 | CSM_BH04 | Jan 21, 2020 | | Water | M20-Ja23235 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 3 | CSM_BH08 | Jan 21, 2020 | | Water | M20-Ja23236 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 4 | CSM_BH09S | Jan 21, 2020 | | Water | M20-Ja23237 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 5 | CSM_BH10S | Jan 20, 2020 | | Water | M20-Ja23238 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 6 | SRT_BH047 | Jan 20, 2020 | | Water | M20-Ja23239 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 7 | SRT_BH052 | Jan 20, 2020 | | Water | M20-Ja23240 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 8 | SRT_BH059 | Jan 20, 2020 | | Water | M20-Ja23241 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 9 | SRT_CBH017 | Jan 20, 2020 | | Water | M20-Ja23242 | X | X | X | X | X | X | | X | X | X | X | X | | X | | X |
| 10 | GASW_BH7 | Jan 22, 2020 | | Water | M20-Ja23243 | X | X | X | X | X | X | | | X | X | X | X | | X | | X |

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| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 | Eurofins \| mgt Suite B15 | Major Anions | Major Cations | TRH (after Silica Gel cleanup) | Total Recoverable Hydrocarbons | Eurofins \| mgt Suite B7 (filtered metals) | Eurofins \| mgt Suite B7A (filtered metals) | BTEXN and Volatile TRH | Polycyclic Aromatic Hydrocarbons (Trace level) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | | | |
| 11 | GASW_BH10 | Jan 21, 2020 | | Water | M20-Ja23244 | X | X | X | X | X | X | | | X | X | X | X | | X | | X |
| 12 | GASW_BH11 | Jan 22, 2020 | | Water | M20-Ja23245 | X | X | X | X | X | X | | | X | X | X | X | | X | | X |
| 13 | GASW_BH23 | Jan 22, 2020 | | Water | M20-Ja23246 | X | X | X | X | X | X | | | X | X | X | X | | X | | X |
| 14 | GASW_BH25A | Jan 22, 2020 | | Water | M20-Ja23247 | X | X | X | X | X | X | | | X | X | X | X | | X | | X |
| 15 | QC02 | Jan 21, 2020 | | Water | M20-Ja23248 | | | | | | | | | | | | | X | | | |
| 16 | RB01 | Jan 21, 2020 | | Water | M20-Ja23249 | | | | | | | X | | | | | | | | | |
| 17 | TRIP BLANK | Jan 20, 2020 | | Water | M20-Ja23250 | | | | | | | | | | | | | | | X | |
| 18 | TRIP SPIKE | Jan 20, 2020 | | Water | M20-Ja23251 | | | | | | | | | | | | | | | X | |
| **Test Counts** | | | | | | 14 | 14 | 14 | 14 | 14 | 14 | 1 | 9 | 14 | 14 | 14 | 14 | 1 | 14 | 2 | 14 |

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per kilogram
**mg/L:** milligrams per litre
**ug/L:** micrograms per litre
**ppm:** Parts per million
**ppb:** Parts per billion
**%:** Percentage
**org/100mL:** Organisms per 100 millilitres
**NTU:** Nephelometric Turbidity Units
**MPN/100mL:** Most Probable Number of organisms per 100 millilitres

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery. |
| **CRM** | Certified Reference Material - reported as percent recovery. |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **QSM** | US Department of Defense Quality Systems Manual Version 5.3 |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within. |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH >C10-C16 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C10-C14 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Toluene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Ethylbenzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| m&p-Xylenes | mg/L | < 0.002 | | | 0.002 | Pass | |
| o-Xylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Xylenes - Total | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | mg/L | < 0.001 | | | 0.001 | Pass | |
| 4.4'-DDD | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDE | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDT | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan I | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan sulphate | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.01 | | | 0.01 | Pass | |
| **Method Blank** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Azinphos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Bolstar | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorfenvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorpyrifos | mg/L | < 0.02 | | | 0.02 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Chlorpyrifos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Coumaphos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-S | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-O | mg/L | < 0.002 | | | 0.002 | Pass | |
| Diazinon | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dichlorvos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dimethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Disulfoton | mg/L | < 0.002 | | | 0.002 | Pass | |
| EPN | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethoprop | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenitrothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fensulfothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Malathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Merphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Methyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Mevinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Monocrotophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Naled | mg/L | < 0.002 | | | 0.002 | Pass | |
| Omethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Phorate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Pirimiphos-methyl | mg/L | < 0.02 | | | 0.02 | Pass | |
| Pyrazophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ronnel | mg/L | < 0.002 | | | 0.002 | Pass | |
| Terbufos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tetrachlorvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tokuthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Trichloronate | mg/L | < 0.002 | | | 0.002 | Pass | |
| **Method Blank** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1016 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1242 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1248 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1254 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1260 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Total PCB* | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.6-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| Tetrachlorophenols - Total | mg/L | < 0.03 | | | 0.03 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | mg/L | < 0.1 | | | 0.1 | Pass | |
| 2-Methyl-4.6-dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 2-Methylphenol (o-Cresol) | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2-Nitrophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4-Dimethylphenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | mg/L | < 0.006 | | | 0.006 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| 4-Nitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| Dinoseb | mg/L | < 0.1 | | | 0.1 | Pass | |
| Phenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | | |
| Acenaphthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Acenaphthylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benz(a)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(g.h.i)perylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Chrysene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Dibenz(a.h)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluorene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Naphthalene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Phenanthrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| **Method Blank** | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Chloride | mg/L | < 1 | | | 1 | Pass | |
| Cyanide (total) | mg/L | < 0.004 | | | 0.004 | Pass | |
| Ferrous Iron - Fe2+ | mg/L | < 0.05 | | | 0.05 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Sulphate (as SO4) | mg/L | < 5 | | | 5 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | mg/L | < 10 | | | 10 | Pass | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 1 | | | 1 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | mg/L | < 20 | | | 20 | Pass | |
| Carbonate Alkalinity (as CaCO3) | mg/L | < 10 | | | 10 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Magnesium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Potassium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Sodium | mg/L | < 0.5 | | | 0.5 | Pass | |
| **Method Blank** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | mg/L | < 0.001 | | | 0.001 | Pass | |
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Cadmium | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Mercury | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Mercury (filtered) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Nickel | mg/L | < 0.001 | | | 0.001 | Pass | |
| Nickel (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Zinc | mg/L | < 0.005 | | | 0.005 | Pass | |
| Zinc (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | % | 115 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 96 | | | 70-130 | Pass | |
| TRH >C10-C16 | % | 118 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | % | 104 | | | 70-130 | Pass | |
| TRH C10-C14 | % | 121 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | % | 120 | | | 70-130 | Pass | |
| Toluene | % | 98 | | | 70-130 | Pass | |
| Ethylbenzene | % | 88 | | | 70-130 | Pass | |
| m&p-Xylenes | % | 92 | | | 70-130 | Pass | |
| Xylenes - Total | % | 93 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | % | 101 | | | 70-130 | Pass | |
| 4.4'-DDD | % | 109 | | | 70-130 | Pass | |
| 4.4'-DDE | % | 86 | | | 70-130 | Pass | |
| a-BHC | % | 97 | | | 70-130 | Pass | |
| Aldrin | % | 98 | | | 70-130 | Pass | |
| b-BHC | % | 113 | | | 70-130 | Pass | |
| d-BHC | % | 72 | | | 70-130 | Pass | |
| Dieldrin | % | 116 | | | 70-130 | Pass | |
| Endosulfan I | % | 125 | | | 70-130 | Pass | |
| Endosulfan II | % | 77 | | | 70-130 | Pass | |
| Endosulfan sulphate | % | 71 | | | 70-130 | Pass | |
| Endrin | % | 73 | | | 70-130 | Pass | |
| Endrin aldehyde | % | 76 | | | 70-130 | Pass | |
| Endrin ketone | % | 76 | | | 70-130 | Pass | |
| g-BHC (Lindane) | % | 109 | | | 70-130 | Pass | |
| Heptachlor | % | 82 | | | 70-130 | Pass | |
| Heptachlor epoxide | % | 90 | | | 70-130 | Pass | |
| Hexachlorobenzene | % | 130 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Diazinon | % | 77 | | | 70-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Dimethoate | % | 75 | | | 70-130 | Pass | |
| Ethion | % | 106 | | | 70-130 | Pass | |
| Fenitrothion | % | 93 | | | 70-130 | Pass | |
| Methyl parathion | % | 92 | | | 70-130 | Pass | |
| Mevinphos | % | 96 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1260 | % | 88 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | % | 71 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | % | 73 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | % | 103 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | % | 72 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | % | 81 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | % | 67 | | | 30-130 | Pass | |
| Pentachlorophenol | % | 70 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | % | 53 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | % | 55 | | | 30-130 | Pass | |
| 2-Methyl-4.6-dinitrophenol | % | 75 | | | 30-130 | Pass | |
| 2-Methylphenol (o-Cresol) | % | 57 | | | 30-130 | Pass | |
| 2-Nitrophenol | % | 83 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | % | 63 | | | 30-130 | Pass | |
| 2.4-Dinitrophenol | % | 62 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | % | 55 | | | 30-130 | Pass | |
| 4-Nitrophenol | % | 36 | | | 30-130 | Pass | |
| Dinoseb | % | 72 | | | 30-130 | Pass | |
| Phenol | % | 39 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | % | 118 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | % | 121 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| Ammonia (as N) | % | 98 | | | 70-130 | Pass | |
| Chloride | % | 70 | | | 70-130 | Pass | |
| Cyanide (total) | % | 108 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | % | 104 | | | 70-130 | Pass | |
| Nitrate (as N) | % | 104 | | | 70-130 | Pass | |
| Sulphate (as SO4) | % | 116 | | | 70-130 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | % | 101 | | | 70-130 | Pass | |
| Total Suspended Solids Dried at 103–105°C | % | 119 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Carbonate Alkalinity (as CaCO3) | % | 98 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | % | 119 | | | 70-130 | Pass | |
| Magnesium | % | 100 | | | 70-130 | Pass | |
| Potassium | % | 100 | | | 70-130 | Pass | |
| Sodium | % | 97 | | | 70-130 | Pass | |

| Test | | | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **LCS - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | | | | | | |
| Arsenic | | | % | 93 | | | 80-120 | Pass | |
| Cadmium | | | % | 92 | | | 80-120 | Pass | |
| Chromium | | | % | 98 | | | 80-120 | Pass | |
| Copper | | | % | 100 | | | 80-120 | Pass | |
| Lead | | | % | 102 | | | 80-120 | Pass | |
| Mercury | | | % | 92 | | | 75-125 | Pass | |
| Nickel | | | % | 100 | | | 80-120 | Pass | |
| Zinc | | | % | 98 | | | 80-120 | Pass | |
| **Test** | **Lab Sample ID** | **QA Source** | **Units** | **Result 1** | | | **Acceptance Limits** | **Pass Limits** | **Qualifying Code** |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ammonia (as N) | M20-Ja25301 | NCP | % | 89 | | | 70-130 | Pass | |
| Chloride | M20-Ja20448 | NCP | % | 128 | | | 70-130 | Pass | |
| Nitrate (as N) | M20-Ja25301 | NCP | % | 91 | | | 70-130 | Pass | |
| Sulphate (as SO4) | M20-Ja20448 | NCP | % | 94 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | M20-Ja25420 | NCP | % | 130 | | | 70-130 | Pass | |
| Carbonate Alkalinity (as CaCO3) | M20-Ja25302 | NCP | % | 76 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Magnesium | M20-Ja25291 | NCP | % | 115 | | | 70-130 | Pass | |
| Potassium | M20-Ja25291 | NCP | % | 124 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | M20-Ja23234 | CP | % | 97 | | | 70-130 | Pass | |
| Cadmium (filtered) | M20-Ja23234 | CP | % | 96 | | | 70-130 | Pass | |
| Chromium (filtered) | M20-Ja23234 | CP | % | 98 | | | 70-130 | Pass | |
| Copper (filtered) | M20-Ja23234 | CP | % | 100 | | | 70-130 | Pass | |
| Lead (filtered) | M20-Ja23234 | CP | % | 103 | | | 70-130 | Pass | |
| Manganese (filtered) | M20-Ja23234 | CP | % | 81 | | | 70-130 | Pass | |
| Mercury (filtered) | M20-Ja23234 | CP | % | 89 | | | 70-130 | Pass | |
| Nickel (filtered) | M20-Ja23234 | CP | % | 98 | | | 70-130 | Pass | |
| Zinc (filtered) | M20-Ja23234 | CP | % | 98 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | M20-Ja23236 | CP | % | 111 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | M20-Ja23244 | CP | % | 94 | | | 70-130 | Pass | |
| Cadmium (filtered) | M20-Ja23244 | CP | % | 95 | | | 70-130 | Pass | |
| Chromium (filtered) | M20-Ja23244 | CP | % | 95 | | | 70-130 | Pass | |
| Copper (filtered) | M20-Ja23244 | CP | % | 98 | | | 70-130 | Pass | |
| Lead (filtered) | M20-Ja23244 | CP | % | 102 | | | 70-130 | Pass | |
| Manganese (filtered) | M20-Ja23244 | CP | % | 45 | | | 70-130 | Fail | Q08 |
| Mercury (filtered) | M20-Ja23244 | CP | % | 17 | | | 70-130 | Fail | Q08 |
| Nickel (filtered) | M20-Ja23244 | CP | % | 98 | | | 70-130 | Pass | |
| Zinc (filtered) | M20-Ja23244 | CP | % | 96 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Calcium | M20-Ja23245 | CP | % | 86 | | | 70-130 | Pass | |
| Sodium | M20-Ja23245 | CP | % | 86 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH >C10-C16 | S20-Ja24114 | NCP | % | 96 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C10-C14 | S20-Ja24114 | NCP | % | 94 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic | S20-Ja21482 | NCP | % | 101 | | | 75-125 | Pass | |
| Cadmium | S20-Ja21482 | NCP | % | 93 | | | 75-125 | Pass | |
| Chromium | S20-Ja21482 | NCP | % | 103 | | | 75-125 | Pass | |
| Copper | S20-Ja21482 | NCP | % | 96 | | | 75-125 | Pass | |
| Lead | S20-Ja21482 | NCP | % | 103 | | | 75-125 | Pass | |
| Mercury | S20-Ja21482 | NCP | % | 99 | | | 70-130 | Pass | |
| Nickel | S20-Ja21482 | NCP | % | 98 | | | 75-125 | Pass | |
| Zinc | S20-Ja21482 | NCP | % | 93 | | | 75-125 | Pass | |
| **Test** | **Lab Sample ID** | **QA Source** | **Units** | **Result 1** | | | **Acceptance Limits** | **Pass Limits** | **Qualifying Code** |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | M20-Ja24957 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **BTEX** | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | M20-Ja24957 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Toluene | M20-Ja24957 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Ethylbenzene | M20-Ja24957 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| m&p-Xylenes | M20-Ja24957 | NCP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| o-Xylene | M20-Ja24957 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Xylenes - Total | M20-Ja24957 | NCP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| 4.4'-DDD | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDE | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDT | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| a-BHC | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Aldrin | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| b-BHC | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| d-BHC | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Dieldrin | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan I | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan II | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan sulphate | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin aldehyde | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin ketone | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| g-BHC (Lindane) | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor epoxide | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Hexachlorobenzene | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Methoxychlor | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Toxaphene | M20-Ja23234 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Azinphos-methyl | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Bolstar | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorfenvinphos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorpyrifos | M20-Ja23234 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Chlorpyrifos-methyl | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Coumaphos | M20-Ja23234 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-S | M20-Ja23234 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-O | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Diazinon | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dichlorvos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dimethoate | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Disulfoton | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| EPN | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethoprop | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethyl parathion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenitrothion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fensulfothion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenthion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Malathion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Merphos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Methyl parathion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Mevinphos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Monocrotophos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Naled | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Omethoate | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Phorate | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Pirimiphos-methyl | M20-Ja23234 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Pyrazophos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ronnel | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Terbufos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tetrachlorvinphos | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tokuthion | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Trichloronate | M20-Ja23234 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | Result 1 | Result 2 | RPD | | | |
| Aroclor-1016 | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1221 | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1232 | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1242 | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1248 | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1254 | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Aroclor-1260 | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Total PCB* | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Chlorophenol | M20-Ja23234 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dichlorophenol | M20-Ja23234 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4.5-Trichlorophenol | M20-Ja23234 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4.6-Trichlorophenol | M20-Ja23234 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.6-Dichlorophenol | M20-Ja23234 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 4-Chloro-3-methylphenol | M20-Ja23234 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Pentachlorophenol | M20-Ja23234 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Tetrachlorophenols - Total | M20-Ja23234 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | M20-Ja23234 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 2-Methyl-4.6-dinitrophenol | M20-Ja23234 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 2-Methylphenol (o-Cresol) | M20-Ja23234 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2-Nitrophenol | M20-Ja23234 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4-Dimethylphenol | M20-Ja23234 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dinitrophenol | M20-Ja23234 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | M20-Ja23234 | CP | mg/L | < 0.006 | < 0.006 | <1 | 30% | Pass | |
| 4-Nitrophenol | M20-Ja23234 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| Dinoseb | M20-Ja23234 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Phenol | M20-Ja23234 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Acenaphthylene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Anthracene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benz(a)anthracene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Chrysene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluoranthene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluorene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Naphthalene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Phenanthrene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Pyrene | M20-Ja23234 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Chloride | M20-Ja20374 | NCP | mg/L | 1100 | 1100 | 1.0 | 30% | Pass | |
| pH (at 25°C) | M20-Ja21889 | NCP | pH Units | 4.0 | 4.0 | pass | 30% | Pass | |
| Sulphate (as SO4) | M20-Ja20374 | NCP | mg/L | 21 | 20 | 6.0 | 30% | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | M20-Ja21442 | NCP | mg/L | 7100 | 6600 | 8.0 | 30% | Pass | |
| Total Suspended Solids Dried at 103–105°C | M20-Ja23234 | CP | mg/L | 2200 | 1700 | 27 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | Result 2 | RPD | | | |
| Bicarbonate Alkalinity (as CaCO3) | B20-Ja23715 | NCP | mg/L | 270 | 320 | 15 | 30% | Pass | |
| Carbonate Alkalinity (as CaCO3) | B20-Ja23715 | NCP | mg/L | < 10 | < 10 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Magnesium | M20-Ja25291 | NCP | mg/L | 1000 | 1000 | 2.0 | 30% | Pass | |
| Potassium | M20-Ja25291 | NCP | mg/L | 65 | 64 | 2.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | M20-Ja23234 | CP | mg/L | 0.002 | 0.002 | 1.0 | 30% | Pass | |
| Cadmium (filtered) | M20-Ja23234 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead (filtered) | M20-Ja23234 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | M20-Ja23234 | CP | mg/L | 0.26 | 0.26 | 1.0 | 30% | Pass | |
| Mercury (filtered) | M20-Ja23234 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | M20-Ja23234 | CP | mg/L | 0.027 | 0.027 | 1.0 | 30% | Pass | |
| Zinc (filtered) | M20-Ja23234 | CP | mg/L | 0.010 | 0.010 | 6.0 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | M20-Ja23235 | CP | mg/L | < 0.004 | < 0.004 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 | M20-Ja23236 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C14 | M20-Ja23236 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 (after silica gel clean-up) | M20-Ja23236 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C10-C14 (after silica gel clean-up) | M20-Ja23236 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 (after silica gel clean-up) | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 (after silica gel clean-up) | M20-Ja23236 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | M20-Ja23237 | CP | mg/L | 0.05 | 0.05 | 2.0 | 30% | Pass | |
| Nitrate (as N) | M20-Ja23237 | CP | mg/L | 0.02 | < 0.02 | 10 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | M20-Ja23244 | CP | mg/L | < 0.004 | < 0.004 | <1 | 30% | Pass | |
| Ferrous Iron - Fe2+ | M20-Ja23244 | CP | mg/L | 19 | 20 | 2.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | M20-Ja23244 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium (filtered) | M20-Ja23244 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | M20-Ja23244 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | M20-Ja23244 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead (filtered) | M20-Ja23244 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | M20-Ja23244 | CP | mg/L | 0.70 | 0.68 | 2.0 | 30% | Pass | |
| Mercury (filtered) | M20-Ja23244 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | M20-Ja23244 | CP | mg/L | 0.029 | 0.029 | <1 | 30% | Pass | |
| Zinc (filtered) | M20-Ja23244 | CP | mg/L | 0.013 | 0.013 | 3.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | M20-Ja23245 | CP | mg/L | 7.7 | 7.4 | 4.0 | 30% | Pass | |
| Sodium | M20-Ja23245 | CP | mg/L | 38 | 38 | 1.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Suspended Solids Dried at 103–105°C | M20-Ja23246 | CP | mg/L | 10 | 13 | 21 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ferrous Iron - Fe2+ | M20-Ja23247 | CP | mg/L | 0.95 | 1.0 | 9.0 | 30% | Pass | |
| Total Suspended Solids Dried at 103–105°C | M20-Ja23247 | CP | mg/L | 130 | 140 | 4.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 | M20-Ja25409 | NCP | mg/L | 1.9 | 1.9 | 4.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C14 | M20-Ja25409 | NCP | mg/L | 3.8 | 3.9 | 2.0 | 30% | Pass | |
| TRH C15-C28 | M20-Ja25409 | NCP | mg/L | 0.4 | 0.4 | 18 | 30% | Pass | |
| TRH C29-C36 | M20-Ja25409 | NCP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | S20-Ja21482 | NCP | mg/L | 0.003 | 0.003 | 1.0 | 30% | Pass | |
| Cadmium | S20-Ja21482 | NCP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium | S20-Ja21482 | NCP | mg/L | 0.005 | 0.005 | 2.0 | 30% | Pass | |
| Copper | S20-Ja21482 | NCP | mg/L | 0.006 | 0.006 | <1 | 30% | Pass | |
| Lead | S20-Ja21482 | NCP | mg/L | 0.002 | 0.002 | 2.0 | 30% | Pass | |
| Mercury | S20-Ja21482 | NCP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel | S20-Ja21482 | NCP | mg/L | 0.003 | 0.003 | 4.0 | 30% | Pass | |
| Zinc | S20-Ja21482 | NCP | mg/L | 0.032 | 0.032 | <1 | 30% | Pass | |

## Comments

This report has been revised (V3) to only report trace PAH LORs.

## Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

## Qualifier Codes/Comments

| Code | Description |
|---|---|
| N01 | F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). |
| N02 | Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid. |
| N04 | F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. |
| Q08 | The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference. |
| R16 | The LORs have been raised due to the high concentration of one or more analytes |
| R20 | This sample is a Trip Spike and therefore all results are reported as a percentage |

## Authorised By

| | |
|---|---|
| Alena Bounkeua | Analytical Services Manager |
| Emily Rosenberg | Senior Analyst-Metal (VIC) |
| Harry Bacalis | Senior Analyst-Volatile (VIC) |
| Joseph Edouard | Senior Analyst-Organic (VIC) |
| Julie Kay | Senior Analyst-Inorganic (VIC) |
| Scott Beddoes | Senior Analyst-Inorganic (VIC) |



**Glenn Jackson**

**General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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# CHAIN OF CUSTODY RECORD



**CLIENT DETAILS**

| | | | |
|---|---|---|---|
| **Company Name :** GHD Pty Ltd, Sydney | **Contact Name :** Terry Nham | **Purchase Order :** | **COC Number :** |
| **Office Address :** | **Project Manager :** Henry Luo | **PROJECT Number :** 21-27234 | **Eurofins \| mgt quote ID :** GHD Rates 2020 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | **Email for results :** terry.nham@ghd.com henry.luo@ghd.com | **PROJECT Name :** Central | **Data output format:** ESDAT |

**Special Directions & Comments :**

**Eurofins | mgt DI water batch number:**

| | Sample ID | Date | Matrix | TRH, BTEXN, 8 Metals (Dissolved) (Suite B6) | PAH - Trace LOR | Phenols | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | Ferrous Iron | Manganese | pH | TDS | TSS | TRH C6-C10 / BTEX | 8 Metals (Total) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CSM_BH02 | 25/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 2 | CSM_BH04 | 25/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 3 | CSM_BH06 | 25/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 4 | CSM_BH08 | 25/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 5 | CSM_BH09S | 24/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 6 | CSM_BH10S | 25/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 7 | SRT_BH047 | 26/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 8 | SRT_BH052 | 26/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 9 | SRT_BH059 | 26/2/20 | Water | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 10 | GASW_BH7 | 24/2/20 | Water | X | | X | X | X | X | X | X | X | X | X | X | X | | |
| 11 | GASW_BH10 | 24/2/20 | Water | X | | X | X | X | X | X | X | X | X | X | X | X | | |
| 12 | GASW_BH11 | 24/2/20 | Water | X | | X | X | X | X | X | X | X | X | X | X | X | | |
| 13 | GASW_BH23 | 24/2/20 | Water | X | | X | X | X | X | X | X | X | X | X | X | X | | |
| 14 | GASW_BH25a | 24/2/20 | Water | X | | X | X | X | X | X | X | X | X | X | X | X | | |
| 15 | ~~QC01~~ | ~~24/2/20~~ | Water | PLEASE SEND TO ALS WITH ATTACHED COC | | | | | | | | | | | | | | |
| 16 | QC02 | 25/2/20 | Water | X | X | | | | | | | | | | | | | |

**Some common holding times (with correct preservation).**
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

**Containers:**

| 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag |
|---|---|---|---|---|---|---|---|
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |
| 1 | | 4 | | 2 | 2 | | |

**Sample comments:**

**Relinquished By:** Terry Nham - GHD
**Date & Time :** 26/2/2020
**Signature:**

**Laboratory Staff**
**Received By:** Rupen
**Date & Time :** 26/02/20 3:28PM
**Signature:**

**Turn around time**
1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

**Method Of Shipment**
☐ Courier
☒ Hand Delivered
☐ Postal
**Courier Consignment # :**

**Temperature on arrival:** 9.4°C

**Report number:** 704673

eurofins | mgt

☑ **Sydney**
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
Email: enviro.syd@mgtlabmark.com.au

☐ **Brisbane**
Unit 1-21 Smallwood Place, Murrarie
Phone: +617 3902 4600
Email: enviro.bris@mgtlabmark.com.au

☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: enquiries.melb@mgtlabmark.com.au

# CHAIN OF CUSTODY RECORD

CLIENT DETAILS



| | | | |
|---|---|---|---|
| Company Name : GHD Pty Ltd, Sydney | Contact Name : Terry Nham | Purchase Order : | COC Number : |
| Office Address : | Project Manager : Henry Luo | PROJECT Number : 21-27234 | Eurofins \| mgt quote ID : GHD Rates 2020 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | Email for results : terry.nham@ghd.com henry.luo@ghd.com | PROJECT Name : Central | Data output format: ESDAT |

Special Directions & Comments :

Eurofins | mgt DI water batch number:

Analytes

| | Sample ID | Date | Matrix | TRH, BTEXN, 8 Metals (Dissolved) (Suite B6) | PAH - Trace LOR | Phenols | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | | Ferrous Iron | Manganese | pH | TDS | TSS | | TRH C6-C10 / BTEX | 8 Metals (Total) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RB01 | 24/2/20 | Water | | | | | | | | | | | | | | | | | X | | | | |
| 2 | Trip Blank | 24/2/20 | Water | | | | | | | | | | | | | | | | X | | | | | |
| 3 | Trip Spike | 24/2/20 | Water | | | | | | | | | | | | | | | | X | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | |

Some common holding times (with correct preservation).
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

Containers:

| 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag |
|---|---|---|---|---|---|---|---|
| | | 1 | | | | | |
| | | | | 2 | | | |
| | | | | 2 | | | |

Sample comments:

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 26/2/2020
Signature:

Received By: Rupam
Date & Time : 26/02/20
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☒ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival:

Report number:

eurofins | Environment Testing

**Melbourne**
6 Monterey Road
Dandenong South Vic 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

**Sydney**
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

**Brisbane**
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

**Perth**
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

| | |
|---|---|
| Company name: | **GHD Pty Ltd NSW** |
| Contact name: | Henry Luo |
| Project name: | CENTRAL |
| Project ID: | 21-27234 |
| COC number: | Not provided |
| Turn around time: | 5 Day |
| Date/Time received: | Feb 26, 2020 3:28 PM |
| Eurofins reference: | **704673** |

## Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 2.4 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

## Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Henry Luo - henry.luo@ghd.com.

*Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.*

**GHD Pty Ltd NSW**
**Level 15, 133 Castlereagh Street**
**Sydney**
**NSW 2000**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 1254**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Henry Luo**

**Report** **704673-W-V2**
Project name CENTRAL
Project ID 21-27234
Received Date Feb 26, 2020

| **Client Sample ID** | | | **CSM_BH02** | **CSM_BH04** | **CSM_BH06** | **CSM_BH08** |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** | **Water** | **Water** |
| **Eurofins Sample No.** | | | **M20-Fe39816** | **M20-Fe39817** | **M20-Fe39818** | **M20-Fe39819** |
| **Date Sampled** | | | **Feb 25, 2020** | **Feb 25, 2020** | **Feb 25, 2020** | **Feb 25, 2020** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | 0.26 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | 0.26 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | 0.3 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | 0.56 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | 0.26 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | 0.3 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | 0.56 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 106 | 98 | 111 | 105 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39816 | M20-Fe39817 | M20-Fe39818 | M20-Fe39819 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 64 | 137 | 96 | 138 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 71 | 85 | 55 | 83 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39816 | M20-Fe39817 | M20-Fe39818 | M20-Fe39819 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 59 | 113 | 76 | 110 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 64 | 137 | 96 | 138 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 71 | 85 | 55 | 83 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 61 | 117 | 63 | 52 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39816 | M20-Fe39817 | M20-Fe39818 | M20-Fe39819 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 67 | 63 | 53 | 75 |
| p-Terphenyl-d14 (surr.) | 1 | % | 86 | 95 | 65 | 61 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.09 | 0.12 | < 0.01 | < 0.01 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 0.10 | 9.4 | 6.2 | 4.8 |
| pH (at 25°C) | 0.1 | pH Units | 8.3 | 7.3 | 7.7 | 6.7 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 540 | 310 | 560 | 340 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 1600 | 2500 | 69 | 15 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.002 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | 0.010 | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.12 | 0.34 | 0.28 | 0.29 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.021 | 0.025 | 0.010 | 0.001 |
| Zinc (filtered) | 0.005 | mg/L | 0.008 | 0.021 | 0.067 | 0.015 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39820 | M20-Fe39821 | M20-Fe39822 | M20-Fe39823 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39820 | M20-Fe39821 | M20-Fe39822 | M20-Fe39823 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 97 | 88 | 105 | 88 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 103 | 109 | 124 | 107 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 59 | 61 | 128 | 132 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39820 | M20-Fe39821 | M20-Fe39822 | M20-Fe39823 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 93 | 76 | 92 | 90 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 103 | 109 | 124 | 107 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 59 | 61 | 128 | 132 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39820 | M20-Fe39821 | M20-Fe39822 | M20-Fe39823 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 73 | 41 | 75 | 52 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39820 | M20-Fe39821 | M20-Fe39822 | M20-Fe39823 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| 2-Fluorobiphenyl (surr.) | 1 | % | 92 | 61 | 91 | 70 |
| p-Terphenyl-d14 (surr.) | 1 | % | 56 | 56 | 99 | 88 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.05 | < 0.01 | < 0.01 | < 0.01 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 7.7 | 0.05 | < 0.05 | < 0.05 |
| pH (at 25°C) | 0.1 | pH Units | 7.1 | 6.7 | 7.7 | 7.5 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 370 | 200 | 170 | 170 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 21 | 97 | < 1 | 110 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | 0.003 | 0.004 | 0.004 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.60 | 0.51 | 0.024 | 0.014 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | 0.002 | < 0.001 |
| Zinc (filtered) | 0.005 | mg/L | 0.014 | < 0.005 | 0.022 | 0.007 |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39824 | M20-Fe39825 | M20-Fe39826 | M20-Fe39827 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | 0.09 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | 0.03 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | 0.30 | < 0.05 | 0.48 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | 0.3 | < 0.05 | 0.48 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.3 | < 0.1 | 0.48 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | 0.09 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | 0.12 | < 0.05 | 0.23 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | 0.2 | < 0.1 | 0.2 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.32 | < 0.1 | 0.43 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 0.062 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 89 | 85 | 100 | 98 |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39824 | M20-Fe39825 | M20-Fe39826 | M20-Fe39827 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 127 | 67 | 83 | 108 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 67 | 76 | 86 | 54 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39824 | M20-Fe39825 | M20-Fe39826 | M20-Fe39827 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 108 | 66 | 78 | 109 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 127 | 67 | 83 | 108 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 67 | 76 | 86 | 54 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | 0.015 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 28 | 31 | 89 | 91 |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39824 | M20-Fe39825 | M20-Fe39826 | M20-Fe39827 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | 0.00017 | 0.00009 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | 0.00017 | 0.00009 | < 0.00001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 85 | 70 | 97 | 53 |
| p-Terphenyl-d14 (surr.) | 1 | % | 58 | 89 | 58 | 64 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | < 0.01 | 0.05 | 0.02 | 0.08 |
| Cyanide (total) | 0.004 | mg/L | < 0.004 | < 0.004 | < 0.004 | < 0.004 |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 0.09 | 18 | 15 | 1.8 |
| pH (at 25°C) | 0.1 | pH Units | 8.2 | 3.8 | 7.8 | 6.8 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 170 | 340 | 1100 | 290 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 1.8 | 28 | 85 | 200 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.001 | 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.027 | 0.002 | < 0.001 | 0.003 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | < 0.005 | 0.14 | 0.46 | 0.32 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.005 | < 0.001 | 0.021 | < 0.001 |
| Zinc (filtered) | 0.005 | mg/L | 0.054 | 0.018 | 0.015 | 0.036 |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25A | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39828 | M20-Fe39829 | M20-Fe39830 | M20-Fe39831 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 1 | < 1 | < 0.01 | - |
| TRH C6-C10 | 0.02 | mg/L | 9.0 | 27 | < 0.02 | - |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | 3.2 | 1.8 | < 0.02 | - |
| TRH >C10-C16 | 0.05 | mg/L | 0.88 | 0.43 | < 0.05 | - |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 1 | < 1 | < 0.05 | - |
| TRH >C16-C34 | 0.1 | mg/L | 0.2 | < 0.1 | 0.3 | - |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | - |
| TRH >C10-C40 (total)* | 0.1 | mg/L | 1.08 | 0.43 | 0.3 | - |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | 8.4 | 27 | < 0.02 | - |
| TRH C10-C14 | 0.05 | mg/L | 0.81 | 0.45 | < 0.05 | - |
| TRH C15-C28 | 0.1 | mg/L | 0.4 | 0.2 | 0.2 | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | - |
| TRH C10-C36 (Total) | 0.1 | mg/L | 1.21 | 0.65 | 0.2 | - |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | 5.5 | 16 | < 0.001 | - |
| Toluene | 0.001 | mg/L | 0.34 | 7.2 | < 0.001 | - |
| Ethylbenzene | 0.001 | mg/L | < 0.1 | 0.46 | < 0.001 | - |
| m&p-Xylenes | 0.002 | mg/L | < 0.2 | 1.1 | < 0.002 | - |
| o-Xylene | 0.001 | mg/L | < 0.1 | 0.42 | < 0.001 | - |
| Xylenes - Total | 0.003 | mg/L | < 0.3 | 1.6 | < 0.003 | - |
| 4-Bromofluorobenzene (surr.) | 1 | % | 87 | 106 | 83 | - |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Dibutylchlorendate (surr.) | 1 | % | 64 | 94 | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 71 | 95 | - | - |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25A | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39828 | M20-Fe39829 | M20-Fe39830 | M20-Fe39831 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | - | - |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | - | - |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | - | - |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | - | - |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | - | - |
| Triphenylphosphate (surr.) | 1 | % | 59 | 93 | - | - |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Aroclor-1232 | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Aroclor-1242 | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Aroclor-1248 | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Aroclor-1254 | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Aroclor-1260 | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | - | - |
| Dibutylchlorendate (surr.) | 1 | % | 64 | 94 | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 71 | 95 | - | - |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25A | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39828 | M20-Fe39829 | M20-Fe39830 | M20-Fe39831 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | 0.007 | - | - |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | 0.010 | - | - |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| Phenol | 0.003 | mg/L | 0.021 | 0.031 | - | - |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| Phenol-d6 (surr.) | 1 | % | 61 | 92 | - | - |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | 0.07 | 0.14 | - | - |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.1 | mg/L | 0.1 | 0.19 | - | - |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | 0.10 | 0.19 | - | - |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | 0.0013 | 0.00070 | < 0.00001 | - |
| Acenaphthylene | 0.00001 | mg/L | 0.00010 | 0.00028 | < 0.00001 | - |
| Anthracene | 0.00001 | mg/L | 0.00048 | 0.00094 | < 0.00001 | - |
| Benz(a)anthracene | 0.00001 | mg/L | 0.00006 | 0.00024 | < 0.00001 | - |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | 0.00032 | < 0.00001 | - |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | 0.00015 | < 0.00001 | - |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | 0.00012 | < 0.00001 | - |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | 0.00014 | < 0.00001 | - |
| Chrysene | 0.00001 | mg/L | 0.00005 | 0.00032 | < 0.00001 | - |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | 0.00002 | < 0.00001 | - |
| Fluoranthene | 0.00001 | mg/L | 0.00039 | 0.0012 | < 0.00001 | - |
| Fluorene | 0.00001 | mg/L | 0.0014 | 0.0016 | < 0.00001 | - |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | 0.00009 | < 0.00001 | - |
| Naphthalene | 0.00001 | mg/L | 0.0091 | 0.013 | < 0.00001 | - |
| Phenanthrene | 0.00001 | mg/L | 0.0016 | 0.0018 | < 0.00001 | - |
| Pyrene | 0.00001 | mg/L | 0.00040 | 0.0015 | < 0.00001 | - |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25A | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | M20-Fe39828 | M20-Fe39829 | M20-Fe39830 | M20-Fe39831 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Total PAH* | 0.00001 | mg/L | 0.01488 | 0.02242 | < 0.00001 | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | 67 | 51 | 51 | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 86 | 57 | 60 | - |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 1.3 | 0.17 | - | - |
| Cyanide (total) | 0.004 | mg/L | 0.11 | 0.055 | - | - |
| Ferrous Iron - Fe2+ | 0.05 | mg/L | 4.6 | 8.3 | - | - |
| pH (at 25°C) | 0.1 | pH Units | 8.1 | 7.2 | - | - |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 420 | 380 | - | - |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 780 | 340 | - | - |
| **Heavy Metals** | | | | | | |
| Arsenic | 0.001 | mg/L | - | - | - | < 0.001 |
| Arsenic (filtered) | 0.001 | mg/L | 0.005 | 0.011 | < 0.001 | - |
| Cadmium | 0.0002 | mg/L | - | - | - | < 0.0002 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | - |
| Chromium | 0.001 | mg/L | - | - | - | < 0.001 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Copper | 0.001 | mg/L | - | - | - | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Lead | 0.001 | mg/L | - | - | - | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Manganese (filtered) | 0.005 | mg/L | 0.12 | 0.096 | - | - |
| Mercury | 0.0001 | mg/L | - | - | - | < 0.0001 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Nickel | 0.001 | mg/L | - | - | - | < 0.001 |
| Nickel (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.026 | - |
| Zinc | 0.005 | mg/L | - | - | - | < 0.005 |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | < 0.005 | 0.021 | - |

| Client Sample ID | | | TRIP BLANK | R20TRIP SPIKE |
|---|---|---|---|---|
| Sample Matrix | | | Water | Water |
| Eurofins Sample No. | | | M20-Fe39832 | M20-Fe39833 |
| Date Sampled | | | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | |
| NaphthaleneN02 | 0.01 | mg/L | < 0.01 | 92 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | 71 |
| TRH C6-C10 less BTEX (F1)N04 | 0.02 | mg/L | < 0.02 | - |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | 81 |
| **BTEX** | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 120 |
| Toluene | 0.001 | mg/L | < 0.001 | 120 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | 94 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | 89 |
| o-Xylene | 0.001 | mg/L | < 0.001 | 92 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | 90 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 102 | 106 |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons | Melbourne | Mar 02, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Melbourne | Mar 02, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Melbourne | Feb 28, 2020 | 14 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Eurofins \| mgt Suite B6 (filtered metals) | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Melbourne | Feb 28, 2020 | |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Metals M8 filtered | Melbourne | Feb 28, 2020 | 28 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Eurofins \| mgt Suite B15 | | | |
| Organochlorine Pesticides | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) | | | |
| Organophosphorus Pesticides | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081) | | | |
| Polychlorinated Biphenyls | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082) | | | |
| Phenols (IWRG 621) | | | |
| Phenols (Halogenated) | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (non-Halogenated) | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A | | | |
| Polycyclic Aromatic Hydrocarbons (Trace level) | Melbourne | Mar 17, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace) | | | |
| Ammonia (as N) | Melbourne | Feb 28, 2020 | 28 Days |
| - Method: LTM-INO-4200 Ammonia by Discrete Analyser | | | |
| Cyanide (total) | Melbourne | Feb 28, 2020 | 14 Days |
| - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA | | | |
| Ferrous Iron - Fe2+ | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser | | | |
| pH (at 25°C) | Melbourne | Feb 28, 2020 | 0 Hours |
| - Method: LTM-GEN-7090 pH in water by ISE | | | |
| Total Suspended Solids Dried at 103–105°C | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | | | |
| Metals M8 | Melbourne | Feb 28, 2020 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Heavy Metals (filtered) | Melbourne | Feb 28, 2020 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | Melbourne | Feb 28, 2020 | 7 Days |
| - Method: LTM-INO-4170 Total Dissolved Solids in Water | | | |

eurofins | Environment Testing

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IANZ # 1290

**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:** 21-27234
**Report #:** 704673
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Feb 26, 2020 3:28 PM
**Due:** Mar 4, 2020
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Ammonia (as N) | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Suspended Solids Dried at 103–105°C | Metals M8 | Phenols (IWRG 621) | Eurofins \| mgt Suite B15 | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B6 (filtered metals) | BTEXN and Volatile TRH | Polycyclic Aromatic Hydrocarbons (Trace level) | Total Dissolved Solids Dried at 180°C ± 2°C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | |
| **External Laboratory** | | | | | | | | | | | | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | | | | | | | | | | | | |
| 1 | CSM_BH02 | Feb 25, 2020 | | Water | M20-Fe39816 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 2 | CSM_BH04 | Feb 25, 2020 | | Water | M20-Fe39817 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 3 | CSM_BH06 | Feb 25, 2020 | | Water | M20-Fe39818 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 4 | CSM_BH08 | Feb 25, 2020 | | Water | M20-Fe39819 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 5 | CSM_BH09S | Feb 25, 2020 | | Water | M20-Fe39820 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 6 | CSM_BH10S | Feb 25, 2020 | | Water | M20-Fe39821 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 7 | SRT_BH047 | Feb 25, 2020 | | Water | M20-Fe39822 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 8 | SRT_BH052 | Feb 25, 2020 | | Water | M20-Fe39823 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 9 | SRT_BH059 | Feb 25, 2020 | | Water | M20-Fe39824 | X | X | X | X | X | X | | X | X | X | X | | X | X |
| 10 | GASW_BH7 | Feb 25, 2020 | | Water | M20-Fe39825 | X | X | X | X | X | X | | X | X | X | X | | | X |

eurofins | Environment Testing

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**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:** 21-27234
**Report #:** 704673
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Feb 26, 2020 3:28 PM
**Due:** Mar 4, 2020
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Ammonia (as N) | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Suspended Solids Dried at 103–105°C | Metals M8 | Phenols (IWRG 621) | Eurofins \| mgt Suite B15 | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B6 (filtered metals) | BTEXN and Volatile TRH | Polycyclic Aromatic Hydrocarbons (Trace level) | Total Dissolved Solids Dried at 180°C ± 2°C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | | | | | | | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | |
| 11 | GASW_BH10 | Feb 25, 2020 | | Water | M20-Fe39826 | X | X | X | X | X | X | | X | X | X | X | | | X |
| 12 | GASW_BH11 | Feb 25, 2020 | | Water | M20-Fe39827 | X | X | X | X | X | X | | X | X | X | X | | | X |
| 13 | GASW_BH23 | Feb 25, 2020 | | Water | M20-Fe39828 | X | X | X | X | X | X | | X | X | X | X | | | X |
| 14 | GASW_BH25A | Feb 25, 2020 | | Water | M20-Fe39829 | X | X | X | X | X | X | | X | X | X | X | | | X |
| 15 | QC02 | Feb 25, 2020 | | Water | M20-Fe39830 | | | | | | | | | | | X | | X | |
| 16 | RB01 | Feb 25, 2020 | | Water | M20-Fe39831 | | | | | | | X | | | | | | | |
| 17 | TRIP BLANK | Feb 25, 2020 | | Water | M20-Fe39832 | | | | | | | | | | | | X | | |
| 18 | TRIP SPIKE | Feb 25, 2020 | | Water | M20-Fe39833 | | | | | | | | | | | | X | | |
| **Test Counts** | | | | | | 14 | 14 | 14 | 14 | 14 | 14 | 1 | 14 | 14 | 14 | 15 | 2 | 10 | 14 |

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

**ppm:** Parts per million | **ppb:** Parts per billion | **%:** Percentage

**org/100mL:** Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery. |
| **CRM** | Certified Reference Material - reported as percent recovery. |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **QSM** | US Department of Defense Quality Systems Manual Version 5.3 |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within. |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH >C10-C16 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C10-C14 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Toluene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Ethylbenzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| m&p-Xylenes | mg/L | < 0.002 | | | 0.002 | Pass | |
| o-Xylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Xylenes - Total | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | mg/L | < 0.001 | | | 0.001 | Pass | |
| 4.4'-DDD | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDE | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDT | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan I | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan sulphate | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.01 | | | 0.01 | Pass | |
| **Method Blank** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Azinphos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Bolstar | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorfenvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorpyrifos | mg/L | < 0.02 | | | 0.02 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Chlorpyrifos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Coumaphos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-S | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-O | mg/L | < 0.002 | | | 0.002 | Pass | |
| Diazinon | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dichlorvos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dimethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Disulfoton | mg/L | < 0.002 | | | 0.002 | Pass | |
| EPN | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethoprop | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenitrothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fensulfothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Malathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Merphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Methyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Mevinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Monocrotophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Naled | mg/L | < 0.002 | | | 0.002 | Pass | |
| Omethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Phorate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Pirimiphos-methyl | mg/L | < 0.02 | | | 0.02 | Pass | |
| Pyrazophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ronnel | mg/L | < 0.002 | | | 0.002 | Pass | |
| Terbufos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tetrachlorvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tokuthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Trichloronate | mg/L | < 0.002 | | | 0.002 | Pass | |
| **Method Blank** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1016 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1242 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1248 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1254 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1260 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Total PCB* | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4.5-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4.6-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.6-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 4-Chloro-3-methylphenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Pentachlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Tetrachlorophenols - Total | mg/L | < 0.03 | | | 0.03 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | mg/L | < 0.1 | | | 0.1 | Pass | |
| 2-Methyl-4.6-dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| 2-Methylphenol (o-Cresol) | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2-Nitrophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4-Dimethylphenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | mg/L | < 0.006 | | | 0.006 | Pass | |
| 4-Nitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| Dinoseb | mg/L | < 0.1 | | | 0.1 | Pass | |
| Phenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | | |
| Acenaphthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Acenaphthylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benz(a)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(g.h.i)perylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Chrysene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Dibenz(a.h)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluorene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Naphthalene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Phenanthrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| **Method Blank** | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Cyanide (total) | mg/L | < 0.004 | | | 0.004 | Pass | |
| Ferrous Iron - Fe2+ | mg/L | < 0.05 | | | 0.05 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | mg/L | < 10 | | | 10 | Pass | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 1 | | | 1 | Pass | |
| **Method Blank** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | mg/L | < 0.001 | | | 0.001 | Pass | |
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Cadmium | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Mercury | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Mercury (filtered) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Nickel | mg/L | < 0.001 | | | 0.001 | Pass | |
| Nickel (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Zinc | mg/L | < 0.005 | | | 0.005 | Pass | |
| Zinc (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | % | 92 | | | 70-130 | Pass | |
| Naphthalene | % | 86 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 101 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 112 | | | 70-130 | Pass | |
| TRH >C10-C16 | % | 84 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | % | 102 | | | 70-130 | Pass | |
| TRH C10-C14 | % | 89 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | % | 91 | | | 70-130 | Pass | |
| Toluene | % | 99 | | | 70-130 | Pass | |
| Ethylbenzene | % | 95 | | | 70-130 | Pass | |
| m&p-Xylenes | % | 113 | | | 70-130 | Pass | |
| Xylenes - Total | % | 107 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | % | 79 | | | 70-130 | Pass | |
| 4.4'-DDD | % | 126 | | | 70-130 | Pass | |
| 4.4'-DDE | % | 96 | | | 70-130 | Pass | |
| 4.4'-DDT | % | 97 | | | 70-130 | Pass | |
| a-BHC | % | 81 | | | 70-130 | Pass | |
| Aldrin | % | 98 | | | 70-130 | Pass | |
| b-BHC | % | 111 | | | 70-130 | Pass | |
| d-BHC | % | 78 | | | 70-130 | Pass | |
| Dieldrin | % | 116 | | | 70-130 | Pass | |
| Endosulfan I | % | 91 | | | 70-130 | Pass | |
| Endosulfan II | % | 87 | | | 70-130 | Pass | |
| Endosulfan sulphate | % | 91 | | | 70-130 | Pass | |
| Endrin | % | 125 | | | 70-130 | Pass | |
| Endrin aldehyde | % | 76 | | | 70-130 | Pass | |
| Endrin ketone | % | 71 | | | 70-130 | Pass | |
| g-BHC (Lindane) | % | 122 | | | 70-130 | Pass | |
| Heptachlor | % | 101 | | | 70-130 | Pass | |
| Heptachlor epoxide | % | 88 | | | 70-130 | Pass | |
| Hexachlorobenzene | % | 91 | | | 70-130 | Pass | |
| Methoxychlor | % | 92 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Diazinon | % | 124 | | | 70-130 | Pass | |
| Dimethoate | % | 85 | | | 70-130 | Pass | |
| Ethion | % | 107 | | | 70-130 | Pass | |
| Fenitrothion | % | 100 | | | 70-130 | Pass | |
| Methyl parathion | % | 96 | | | 70-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Mevinphos | % | 109 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1260 | % | 100 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | % | 110 | | | 30-130 | Pass | |
| 2.4-Dichlorophenol | % | 109 | | | 30-130 | Pass | |
| 2.4.5-Trichlorophenol | % | 87 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | % | 106 | | | 30-130 | Pass | |
| 2.6-Dichlorophenol | % | 67 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | % | 77 | | | 30-130 | Pass | |
| Pentachlorophenol | % | 102 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | % | 81 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | % | 71 | | | 30-130 | Pass | |
| 2-Methyl-4.6-dinitrophenol | % | 70 | | | 30-130 | Pass | |
| 2-Methylphenol (o-Cresol) | % | 98 | | | 30-130 | Pass | |
| 2-Nitrophenol | % | 107 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | % | 61 | | | 30-130 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | % | 98 | | | 30-130 | Pass | |
| 4-Nitrophenol | % | 76 | | | 30-130 | Pass | |
| Dinoseb | % | 93 | | | 30-130 | Pass | |
| Phenol | % | 59 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | % | 89 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | % | 95 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | | |
| Acenaphthene | % | 112 | | | 70-130 | Pass | |
| Acenaphthylene | % | 108 | | | 70-130 | Pass | |
| Anthracene | % | 114 | | | 70-130 | Pass | |
| Benz(a)anthracene | % | 79 | | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 106 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 97 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | % | 100 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 93 | | | 70-130 | Pass | |
| Chrysene | % | 121 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | % | 104 | | | 70-130 | Pass | |
| Fluoranthene | % | 106 | | | 70-130 | Pass | |
| Fluorene | % | 110 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | % | 103 | | | 70-130 | Pass | |
| Naphthalene | % | 104 | | | 70-130 | Pass | |
| Phenanthrene | % | 96 | | | 70-130 | Pass | |
| Pyrene | % | 107 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| Ammonia (as N) | % | 92 | | | 70-130 | Pass | |
| Cyanide (total) | % | 92 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | % | 113 | | | 70-130 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | % | 96 | | | 70-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Total Suspended Solids Dried at 103–105°C | % | 110 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | % | 100 | | | 80-120 | Pass | |
| Cadmium | % | 97 | | | 80-120 | Pass | |
| Chromium | % | 98 | | | 80-120 | Pass | |
| Copper | % | 96 | | | 80-120 | Pass | |
| Lead | % | 100 | | | 80-120 | Pass | |
| Mercury | % | 97 | | | 75-125 | Pass | |
| Nickel | % | 96 | | | 80-120 | Pass | |
| Zinc | % | 98 | | | 80-120 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| Naphthalene | M20-Fe36645 | NCP | % | 115 | | | 70-130 | Pass | |
| TRH C6-C10 | M20-Fe36645 | NCP | % | 95 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C6-C9 | M20-Fe36645 | NCP | % | 95 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **BTEX** | | | | Result 1 | | | | | |
| Benzene | M20-Fe36645 | NCP | % | 106 | | | 70-130 | Pass | |
| Toluene | M20-Fe36645 | NCP | % | 116 | | | 70-130 | Pass | |
| Ethylbenzene | M20-Fe36645 | NCP | % | 111 | | | 70-130 | Pass | |
| m&p-Xylenes | M20-Fe36645 | NCP | % | 126 | | | 70-130 | Pass | |
| o-Xylene | M20-Fe36645 | NCP | % | 109 | | | 70-130 | Pass | |
| Xylenes - Total | M20-Fe36645 | NCP | % | 120 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Ammonia (as N) | M20-Fe42928 | NCP | % | 97 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | P20-Fe39957 | NCP | % | 97 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | M20-Fe39816 | CP | % | 101 | | | 70-130 | Pass | |
| Cadmium (filtered) | M20-Fe39816 | CP | % | 99 | | | 70-130 | Pass | |
| Chromium (filtered) | M20-Fe39816 | CP | % | 95 | | | 70-130 | Pass | |
| Copper (filtered) | M20-Fe39816 | CP | % | 93 | | | 70-130 | Pass | |
| Lead (filtered) | M20-Fe39816 | CP | % | 99 | | | 70-130 | Pass | |
| Manganese (filtered) | M20-Fe39816 | CP | % | 91 | | | 70-130 | Pass | |
| Mercury (filtered) | M20-Fe39816 | CP | % | 94 | | | 70-130 | Pass | |
| Nickel (filtered) | M20-Fe39816 | CP | % | 93 | | | 70-130 | Pass | |
| Zinc (filtered) | M20-Fe39816 | CP | % | 95 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | | | | | |
| Chlordanes - Total | M20-Fe39817 | CP | % | 108 | | | 70-130 | Pass | |
| 4.4'-DDD | M20-Fe39817 | CP | % | 110 | | | 70-130 | Pass | |
| 4.4'-DDE | M20-Fe39817 | CP | % | 113 | | | 70-130 | Pass | |
| 4.4'-DDT | M20-Fe39817 | CP | % | 95 | | | 70-130 | Pass | |
| a-BHC | M20-Fe39817 | CP | % | 95 | | | 70-130 | Pass | |
| Aldrin | M20-Fe39817 | CP | % | 103 | | | 70-130 | Pass | |
| b-BHC | M20-Fe39817 | CP | % | 124 | | | 70-130 | Pass | |
| d-BHC | M20-Fe39817 | CP | % | 91 | | | 70-130 | Pass | |
| Dieldrin | M20-Fe39817 | CP | % | 110 | | | 70-130 | Pass | |
| Endosulfan I | M20-Fe39817 | CP | % | 108 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| Endosulfan II | M20-Fe39817 | CP | % | 89 | | | 70-130 | Pass | |
| Endosulfan sulphate | M20-Fe39817 | CP | % | 94 | | | 70-130 | Pass | |
| Endrin | M20-Fe39817 | CP | % | 104 | | | 70-130 | Pass | |
| Endrin aldehyde | M20-Fe39817 | CP | % | 109 | | | 70-130 | Pass | |
| Endrin ketone | M20-Fe39817 | CP | % | 88 | | | 70-130 | Pass | |
| g-BHC (Lindane) | M20-Fe39817 | CP | % | 108 | | | 70-130 | Pass | |
| Heptachlor | M20-Fe39817 | CP | % | 105 | | | 70-130 | Pass | |
| Heptachlor epoxide | M20-Fe39817 | CP | % | 96 | | | 70-130 | Pass | |
| Hexachlorobenzene | M20-Fe39817 | CP | % | 106 | | | 70-130 | Pass | |
| Methoxychlor | M20-Fe39817 | CP | % | 93 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH >C10-C16 | M20-Fe39819 | CP | % | 105 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C10-C14 | M20-Fe39819 | CP | % | 111 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | M20-Fe39819 | CP | % | 118 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | | | | | |
| TRH C10-C14 (after silica gel clean-up) | M20-Fe39819 | CP | % | 124 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | M20-Fe39824 | CP | % | 104 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | M20-Fe39826 | CP | % | 100 | | | 70-130 | Pass | |
| Cadmium (filtered) | M20-Fe39826 | CP | % | 96 | | | 70-130 | Pass | |
| Chromium (filtered) | M20-Fe39826 | CP | % | 96 | | | 70-130 | Pass | |
| Copper (filtered) | M20-Fe39826 | CP | % | 92 | | | 70-130 | Pass | |
| Lead (filtered) | M20-Fe39826 | CP | % | 99 | | | 70-130 | Pass | |
| Manganese (filtered) | M20-Fe39826 | CP | % | 59 | | | 70-130 | Fail | Q08 |
| Mercury (filtered) | M20-Fe39826 | CP | % | 19 | | | 70-130 | Fail | Q08 |
| Nickel (filtered) | M20-Fe39826 | CP | % | 91 | | | 70-130 | Pass | |
| Zinc (filtered) | M20-Fe39826 | CP | % | 93 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic | B20-Fe32097 | NCP | % | 98 | | | 75-125 | Pass | |
| Cadmium | B20-Fe32097 | NCP | % | 92 | | | 75-125 | Pass | |
| Chromium | B20-Fe32097 | NCP | % | 93 | | | 75-125 | Pass | |
| Copper | B20-Fe32097 | NCP | % | 91 | | | 75-125 | Pass | |
| Lead | B20-Fe32097 | NCP | % | 93 | | | 75-125 | Pass | |
| Mercury | B20-Fe32097 | NCP | % | INT | | | 70-130 | Fail | Q08 |
| Nickel | B20-Fe32097 | NCP | % | 91 | | | 75-125 | Pass | |
| Zinc | B20-Fe32097 | NCP | % | 93 | | | 75-125 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | M20-Fe39833 | CP | % | 73 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Organochlorine Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | M20-Fe39816 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| 4.4'-DDD | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDE | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| 4.4'-DDT | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| a-BHC | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Aldrin | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| b-BHC | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| d-BHC | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Dieldrin | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan I | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan II | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endosulfan sulphate | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin aldehyde | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Endrin ketone | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| g-BHC (Lindane) | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Heptachlor epoxide | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Hexachlorobenzene | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Methoxychlor | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Azinphos-methyl | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Bolstar | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorfenvinphos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Chlorpyrifos | M20-Fe39816 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Chlorpyrifos-methyl | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Coumaphos | M20-Fe39816 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-S | M20-Fe39816 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Demeton-O | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Diazinon | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dichlorvos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Dimethoate | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Disulfoton | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| EPN | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethoprop | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ethyl parathion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenitrothion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fensulfothion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Fenthion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Malathion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Merphos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Methyl parathion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Mevinphos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Monocrotophos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Naled | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Omethoate | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Phorate | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Pirimiphos-methyl | M20-Fe39816 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Pyrazophos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Ronnel | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Organophosphorus Pesticides** | | | | Result 1 | Result 2 | RPD | | | |
| Terbufos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tetrachlorvinphos | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Tokuthion | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| Trichloronate | M20-Fe39816 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Chlorophenol | M20-Fe39816 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dichlorophenol | M20-Fe39816 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4.5-Trichlorophenol | M20-Fe39816 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4.6-Trichlorophenol | M20-Fe39816 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.6-Dichlorophenol | M20-Fe39816 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 4-Chloro-3-methylphenol | M20-Fe39816 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Pentachlorophenol | M20-Fe39816 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Tetrachlorophenols - Total | M20-Fe39816 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Phenols (non-Halogenated)** | | | | Result 1 | Result 2 | RPD | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | M20-Fe39816 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 2-Methyl-4.6-dinitrophenol | M20-Fe39816 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 2-Methylphenol (o-Cresol) | M20-Fe39816 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2-Nitrophenol | M20-Fe39816 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| 2.4-Dimethylphenol | M20-Fe39816 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| 2.4-Dinitrophenol | M20-Fe39816 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | M20-Fe39816 | CP | mg/L | < 0.006 | < 0.006 | <1 | 30% | Pass | |
| 4-Nitrophenol | M20-Fe39816 | CP | mg/L | < 0.03 | < 0.03 | <1 | 30% | Pass | |
| Dinoseb | M20-Fe39816 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Phenol | M20-Fe39816 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Acenaphthylene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Anthracene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benz(a)anthracene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Chrysene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluoranthene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluorene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Naphthalene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Phenanthrene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Pyrene | M20-Fe39816 | CP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | M20-Fe42928 | NCP | mg/L | 0.51 | 0.50 | 1.0 | 30% | Pass | |
| pH (at 25°C) | M20-Fe40838 | NCP | pH Units | 8.0 | 8.0 | pass | 30% | Pass | |
| Total Suspended Solids Dried at 103–105°C | M20-Fe36386 | NCP | mg/L | 13 | 16 | 16 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | M20-Fe39816 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium (filtered) | M20-Fe39816 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | M20-Fe39816 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | M20-Fe39816 | CP | mg/L | 0.002 | 0.002 | <1 | 30% | Pass | |
| Lead (filtered) | M20-Fe39816 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | M20-Fe39816 | CP | mg/L | 0.12 | 0.12 | <1 | 30% | Pass | |
| Mercury (filtered) | M20-Fe39816 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | M20-Fe39816 | CP | mg/L | 0.021 | 0.021 | 1.0 | 30% | Pass | |
| Zinc (filtered) | M20-Fe39816 | CP | mg/L | 0.008 | 0.008 | 3.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | M20-Fe39817 | CP | mg/L | 310 | 280 | 12 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 | M20-Fe39818 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C14 | M20-Fe39818 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 (after silica gel clean-up) | M20-Fe39818 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C10-C14 (after silica gel clean-up) | M20-Fe39818 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| TRH C15-C28 (after silica gel clean-up) | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| TRH C29-C36 (after silica gel clean-up) | M20-Fe39818 | CP | mg/L | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ferrous Iron - Fe2+ | M20-Fe39822 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| Naphthalene | M20-Fe40513 | NCP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| TRH C6-C10 | M20-Fe40513 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | M20-Fe40513 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **BTEX** | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | M20-Fe40513 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Toluene | M20-Fe40513 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Ethylbenzene | M20-Fe40513 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| m&p-Xylenes | M20-Fe40513 | NCP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **BTEX** | | | | Result 1 | Result 2 | RPD | | | |
| o-Xylene | M20-Fe40513 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Xylenes - Total | M20-Fe40513 | NCP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | M20-Fe39824 | CP | mg/L | < 0.004 | < 0.004 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | M20-Fe39826 | CP | mg/L | 0.001 | < 0.001 | 8.0 | 30% | Pass | |
| Cadmium (filtered) | M20-Fe39826 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | M20-Fe39826 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | M20-Fe39826 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead (filtered) | M20-Fe39826 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | M20-Fe39826 | CP | mg/L | 0.46 | 0.45 | 2.0 | 30% | Pass | |
| Mercury (filtered) | M20-Fe39826 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | M20-Fe39826 | CP | mg/L | 0.021 | 0.020 | 5.0 | 30% | Pass | |
| Zinc (filtered) | M20-Fe39826 | CP | mg/L | 0.015 | 0.014 | 6.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | B20-Fe32097 | NCP | mg/L | 0.006 | 0.006 | <1 | 30% | Pass | |
| Cadmium | B20-Fe32097 | NCP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium | B20-Fe32097 | NCP | mg/L | < 0.001 | 0.001 | 26 | 30% | Pass | |
| Copper | B20-Fe32097 | NCP | mg/L | 0.006 | 0.006 | 2.0 | 30% | Pass | |
| Lead | B20-Fe32097 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Mercury | B20-Fe32097 | NCP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel | B20-Fe32097 | NCP | mg/L | 0.001 | 0.001 | <1 | 30% | Pass | |
| Zinc | B20-Fe32097 | NCP | mg/L | < 0.005 | < 0.005 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | M20-Fe39833 | CP | mg/L | < 0.004 | < 0.004 | <1 | 30% | Pass | |

## Comments

This report has been revised (V2) to report Trace PAH for samples Fe39825 to Fe39829.

## Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

## Qualifier Codes/Comments

| Code | Description |
|---|---|
| N01 | F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). |
| N02 | Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid. |
| N04 | F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. |
| Q08 | The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference. |
| R16 | The LORs have been raised due to the high concentration of one or more analytes |
| R20 | This sample is a Trip Spike and therefore all results are reported as a percentage |

## Authorised By

| | |
|---|---|
| Alena Bounkeua | Analytical Services Manager |
| Emily Rosenberg | Senior Analyst-Metal (VIC) |
| Harry Bacalis | Senior Analyst-Volatile (VIC) |
| Joseph Edouard | Senior Analyst-Organic (VIC) |
| Scott Beddoes | Senior Analyst-Inorganic (VIC) |



**Glenn Jackson**

**General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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## #AU_CAU001_EnviroSampleVic

**From:** Alena Bounkeua
**Sent:** Tuesday, 10 March 2020 2:02 PM
**To:** #AU_CAU001_EnviroSampleVic
**Subject:** 1 day TAT additional analysis

Hi Melbourne,

Additional analysis please – 1 day TAT

**Report:** 704673

All samples from Fe39816 to Fe39829

PB

- Major anions
- Major cations

Thanks,

Kind Regards,

Alena Bounkeua
**Eurofins | Environment Testing**
Phone: +61 2 9900 8414
Mobile: +61 429 365 410
Email: AlenaBounkeua@eurofins.com

706746

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NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

| | |
|---|---|
| Company name: | **GHD Pty Ltd NSW** |
| Contact name: | Henry Luo |
| Project name: | CENTRAL |
| Project ID: | 21-27234 |
| COC number: | Not provided |
| Turn around time: | 1 Day |
| Date/Time received: | Mar 10, 2020 2:02 PM |
| Eurofins reference: | **706746** |

## Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

## Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Henry Luo - henry.luo@ghd.com.

*Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.*

**GHD Pty Ltd NSW**
**Level 15, 133 Castlereagh Street**
**Sydney**
**NSW 2000**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 1254**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Henry Luo**

**Report** **706746-W**
Project name CENTRAL
Project ID 21-27234
Received Date Mar 10, 2020

| **Client Sample ID** | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | Water | Water | Water | Water |
| **Eurofins Sample No.** | | | M20-Ma12720 | M20-Ma12721 | M20-Ma12722 | M20-Ma12723 |
| **Date Sampled** | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| | | | | | | |
| Chloride | 1 | mg/L | 190 | 140 | 590 | 93 |
| Nitrate (as N) | 0.02 | mg/L | 0.04 | < 0.02 | 0.02 | 0.05 |
| Sulphate (as SO4) | 5 | mg/L | 34 | 38 | 31 | 45 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 290 | 110 | 140 | 110 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 49 | 8.2 | 37 | 12 |
| Magnesium | 0.5 | mg/L | 37 | 15 | 33 | 16 |
| Potassium | 0.5 | mg/L | 10 | 13 | < 5 | < 5 |
| Sodium | 0.5 | mg/L | 100 | 71 | 120 | 84 |

| **Client Sample ID** | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | Water | Water | Water | Water |
| **Eurofins Sample No.** | | | M20-Ma12724 | M20-Ma12725 | M20-Ma12726 | M20-Ma12727 |
| **Date Sampled** | | | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 | Feb 25, 2020 |
| Test/Reference | LOR | Unit | | | | |
| | | | | | | |
| Chloride | 1 | mg/L | 52 | 24 | 83 | 96 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | 1.5 | 23 | 11 |
| Sulphate (as SO4) | 5 | mg/L | 150 | 55 | 27 | 17 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 76 | 22 | 49 | 28 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 3.3 | < 5 | 19 | 9.3 |
| Magnesium | 0.5 | mg/L | 6.4 | 6.6 | 9.5 | < 5 |
| Potassium | 0.5 | mg/L | < 5 | < 5 | < 5 | < 5 |
| Sodium | 0.5 | mg/L | 110 | 34 | 26 | 37 |

| Client Sample ID | | | SRT_BH059 | GAWS_BH7 | GAWS_BH10 | GAWS_BH11 |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** | **Water** | **Water** |
| **Eurofins Sample No.** | | | **M20-Ma12728** | **M20-Ma12729** | **M20-Ma12730** | **M20-Ma12731** |
| **Date Sampled** | | | **Feb 25, 2020** | **Feb 25, 2020** | **Feb 25, 2020** | **Feb 25, 2020** |
| Test/Reference | LOR | Unit | | | | |
| | | | | | | |
| Chloride | 1 | mg/L | 22 | 40 | 200 | 44 |
| Nitrate (as N) | 0.02 | mg/L | 4.4 | 0.02 | < 0.02 | 0.02 |
| Sulphate (as SO4) | 5 | mg/L | 27 | 140 | < 5 | 48 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 170 | < 20 | 530 | 96 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 57 | < 5 | 95 | 27 |
| Magnesium | 0.5 | mg/L | 5.4 | 5.1 | 54 | 6.1 |
| Potassium | 0.5 | mg/L | 7.4 | < 5 | 21 | < 5 |
| Sodium | 0.5 | mg/L | 10 | 60 | 170 | 34 |

| Client Sample ID | | | GAWS_BH23 | GAWS_BH25A |
|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** |
| **Eurofins Sample No.** | | | **M20-Ma12732** | **M20-Ma12733** |
| **Date Sampled** | | | **Feb 25, 2020** | **Feb 25, 2020** |
| Test/Reference | LOR | Unit | | |
| | | | | |
| Chloride | 1 | mg/L | 70 | 63 |
| Nitrate (as N) | 0.02 | mg/L | 0.03 | < 0.02 |
| Sulphate (as SO4) | 5 | mg/L | 120 | 97 |
| **Alkalinity (speciated)** | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 320 | 170 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 |
| **Alkali Metals** | | | | |
| Calcium | 0.5 | mg/L | 120 | 81 |
| Magnesium | 0.5 | mg/L | 12 | 5.8 |
| Potassium | 0.5 | mg/L | 25 | < 5 |
| Sodium | 0.5 | mg/L | 61 | 20 |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Major Anions | | | |
| Chloride | Melbourne | Mar 10, 2020 | 28 Days |
| - Method: LTM-INO-4090 Chloride by Discrete Analyser | | | |
| Nitrate (as N) | Melbourne | Mar 10, 2020 | 28 Days |
| - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | | | |
| Sulphate (as SO4) | Melbourne | Mar 10, 2020 | 28 Days |
| - Method: LTM-INO-4110 Sulfate by Discrete Analyser | | | |
| Alkalinity (speciated) | Melbourne | Mar 10, 2020 | 14 Days |
| - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | | | |
| Major Cations | | | |
| Alkali Metals | Melbourne | Mar 10, 2020 | 180 Days |
| - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES | | | |

eurofins | Environment Testing

ABN – 50 005 085 521 web : www.eurofins.com.au e.mail : EnviroSales@eurofins.com

**Australia**

**Melbourne**
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

**Sydney**
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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

**Brisbane**
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

**Perth**
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

**New Zealand**

**Auckland**
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

**Christchurch**
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:**
**Report #:** 706746
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Mar 10, 2020 2:02 PM
**Due:** Mar 11, 2020
**Priority:** 1 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Major Anions | Major Cations |
|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | |
| **External Laboratory** | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | |
| 1 | CSM_BH02 | Feb 25, 2020 | | Water | M20-Ma12720 | X | X |
| 2 | CSM_BH04 | Feb 25, 2020 | | Water | M20-Ma12721 | X | X |
| 3 | CSM_BH06 | Feb 25, 2020 | | Water | M20-Ma12722 | X | X |
| 4 | CSM_BH08 | Feb 25, 2020 | | Water | M20-Ma12723 | X | X |
| 5 | CSM_BH09S | Feb 25, 2020 | | Water | M20-Ma12724 | X | X |
| 6 | CSM_BH10S | Feb 25, 2020 | | Water | M20-Ma12725 | X | X |
| 7 | SRT_BH047 | Feb 25, 2020 | | Water | M20-Ma12726 | X | X |
| 8 | SRT_BH052 | Feb 25, 2020 | | Water | M20-Ma12727 | X | X |
| 9 | SRT_BH059 | Feb 25, 2020 | | Water | M20-Ma12728 | X | X |
| 10 | GAWS_BH7 | Feb 25, 2020 | | Water | M20-Ma12729 | X | X |

eurofins | Environment Testing

ABN – 50 005 085 521 web : www.eurofins.com.au e.mail : EnviroSales@eurofins.com

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Phone : +64 9 526 45 51
IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
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**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:**
**Report #:** 706746
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Mar 10, 2020 2:02 PM
**Due:** Mar 11, 2020
**Priority:** 1 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Major Anions | Major Cations |
|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | X |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | |
| 11 | GAWS_BH10 | Feb 25, 2020 | | Water | M20-Ma12730 | X | X |
| 12 | GAWS_BH11 | Feb 25, 2020 | | Water | M20-Ma12731 | X | X |
| 13 | GAWS_BH23 | Feb 25, 2020 | | Water | M20-Ma12732 | X | X |
| 14 | GAWS_BH25A | Feb 25, 2020 | | Water | M20-Ma12733 | X | X |
| **Test Counts** | | | | | | 14 | 14 |

eurofins | Environment Testing

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

**ppm:** Parts per million | **ppb:** Parts per billion | **%:** Percentage

**org/100mL:** Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery. |
| **CRM** | Certified Reference Material - reported as percent recovery. |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **QSM** | US Department of Defense Quality Systems Manual Version 5.3 |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within. |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| Chloride | mg/L | < 1 | | | 1 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Sulphate (as SO4) | mg/L | < 5 | | | 5 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Magnesium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Potassium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Sodium | mg/L | < 0.5 | | | 0.5 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| Chloride | % | 103 | | | 70-130 | Pass | |
| Nitrate (as N) | % | 100 | | | 70-130 | Pass | |
| Sulphate (as SO4) | % | 103 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkalinity (speciated)** | | | | | | | |
| Carbonate Alkalinity (as CaCO3) | % | 90 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | % | 98 | | | 70-130 | Pass | |
| Magnesium | % | 93 | | | 70-130 | Pass | |
| Potassium | % | 95 | | | 70-130 | Pass | |
| Sodium | % | 104 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Chloride | B20-Ma07816 | NCP | % | 77 | | | 70-130 | Pass | |
| Nitrate (as N) | M20-Ma12020 | NCP | % | 95 | | | 70-130 | Pass | |
| Sulphate (as SO4) | B20-Ma07753 | NCP | % | 98 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | | | | | |
| Carbonate Alkalinity (as CaCO3) | M20-Ma06088 | NCP | % | 82 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Calcium | M20-Ma12720 | CP | % | 83 | | | 70-130 | Pass | |
| Magnesium | M20-Ma12720 | CP | % | 80 | | | 70-130 | Pass | |
| Potassium | M20-Ma12720 | CP | % | 78 | | | 70-130 | Pass | |
| Sodium | M20-Ma12720 | CP | % | 82 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Calcium | M20-Ma12730 | CP | % | 113 | | | 70-130 | Pass | |
| Magnesium | M20-Ma12730 | CP | % | 109 | | | 70-130 | Pass | |
| Potassium | M20-Ma12730 | CP | % | 108 | | | 70-130 | Pass | |
| Sodium | M20-Ma12730 | CP | % | 110 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | Result 2 | RPD | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Nitrate (as N) | M20-Ma12020 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | Result 2 | RPD | | | |
| Bicarbonate Alkalinity (as CaCO3) | M20-Ma12720 | CP | mg/L | 290 | 300 | 4.0 | 30% | Pass | |
| Carbonate Alkalinity (as CaCO3) | M20-Ma12720 | CP | mg/L | < 10 | < 10 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | M20-Ma12720 | CP | mg/L | 49 | 49 | <1 | 30% | Pass | |
| Magnesium | M20-Ma12720 | CP | mg/L | 37 | 37 | <1 | 30% | Pass | |
| Potassium | M20-Ma12720 | CP | mg/L | 10 | 10 | 2.0 | 30% | Pass | |
| Sodium | M20-Ma12720 | CP | mg/L | 100 | 100 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Chloride | M20-Ma12729 | CP | mg/L | 40 | 37 | 7.0 | 30% | Pass | |
| Sulphate (as SO4) | M20-Ma12729 | CP | mg/L | 140 | 140 | 2.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkalinity (speciated)** | | | | Result 1 | Result 2 | RPD | | | |
| Bicarbonate Alkalinity (as CaCO3) | M20-Ma12730 | CP | mg/L | 530 | 530 | 1.0 | 30% | Pass | |
| Carbonate Alkalinity (as CaCO3) | M20-Ma12730 | CP | mg/L | < 10 | < 10 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | M20-Ma12730 | CP | mg/L | 95 | 93 | 2.0 | 30% | Pass | |
| Magnesium | M20-Ma12730 | CP | mg/L | 54 | 52 | 4.0 | 30% | Pass | |
| Potassium | M20-Ma12730 | CP | mg/L | 21 | 20 | 3.0 | 30% | Pass | |
| Sodium | M20-Ma12730 | CP | mg/L | 170 | 160 | 5.0 | 30% | Pass | |

## Comments

### Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

## Authorised By

| | |
|---|---|
| Alena Bounkeua | Analytical Services Manager |
| Emily Rosenberg | Senior Analyst-Metal (VIC) |
| Scott Beddoes | Senior Analyst-Inorganic (VIC) |



**Glenn Jackson**
**General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Email: enquiries.melb@mgtlabmark.com.au

# CHAIN OF CUSTODY RECORD

CLIENT DETAILS



| | | | |
|---|---|---|---|
| Company Name : GHD Pty Ltd, Sydney | Contact Name : Terry Nham | Purchase Order : | COC Number : |
| Office Address : | Project Manager : Henry Luo | PROJECT Number : 21-27234 | Eurofins \| mgt quote ID : GHD Rates 2020 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | Email for results : terry.nham@ghd.com henry.luo@ghd.com | PROJECT Name : Central | Data output format: ESDAT |

Special Directions & Comments :

Eurofins | mgt DI water batch number:

Analytes

| | Sample ID | Date | Matrix | TRH, BTEXN, 8 Metals (Dissolved) (Suite B6) | PAH - Trace LOR | Phenols | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | | Ferrous Iron | Manganese | pH | TDS | TSS | | TRH C6-C10 / BTEX | 8 Metals (Total) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CSM_BH02 | 18/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 2 | CSM_BH04 | 18/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 3 | CSM_BH06 | 16/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 4 | CSM_BH08 | 18/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 5 | CSM_BH09S | 17/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 6 | CSM_BH10S | 17/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 7 | SRT_BH047 | 16/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 8 | SRT_BH052 | 16/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 9 | SRT_BH059 | 16/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 10 | GASW_BH7 | 17/03 | Water | X | X | X | | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 11 | GASW_BH10 | 18/03 | Water | X | X | X | | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 12 | GASW_BH11 | 17/03 | Water | X | X | X | | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 13 | GASW_BH23 | 17/03 | Water | X | X | X | | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 14 | GASW_BH25a | 17/03 | Water | X | X | X | | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 15 | ~~QC01~~ | | ~~Water~~ | ~~PLEASE SEND TO ALS WITH ATTACHED COC~~ | | | | | | | | | | | | | | | | | | | | | |
| 16 | QC02 | 17/03 | Water | X | X | | | | | | | | | | | | | | | | | | | | |

Some common holding times (with correct preservation).
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

Containers:

| | 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 4 | | 2 | 2 | | |
| 2 | 1 | | 4 | | 2 | 2 | | |
| 3 | 1 | | 4 | | 2 | 2 | | |
| 4 | 1 | | 4 | | 2 | 2 | | |
| 5 | 1 | | 4 | | 2 | 2 | | |
| 6 | 1 | | 4 | | 2 | 2 | | |
| 7 | 1 | | 4 | | 2 | 2 | | |
| 8 | 1 | | 4 | | 2 | 2 | | |
| 9 | 1 | | 4 | | 2 | 2 | | |
| 10 | 1 | | 4 | | 2 | 2 | | |
| 11 | 1 | | 4 | | 2 | 2 | | |
| 12 | 1 | | 4 | | 2 | 2 | | |
| 13 | 1 | | 4 | | 2 | 2 | | |
| 14 | 1 | | 4 | | 2 | 2 | | |
| 15 | 1 | | 4 | | 2 | 2 | | |
| 16 | 1 | | 4 | | 2 | 2 | | |

Sample comments:

| Relinquished By: Terry Nham - GHD | Laboratory Staff — Received By: Rupam | Turn around time | Method Of Shipment | Temperature on arrival: |
|---|---|---|---|---|
| Date & Time : 18/03/2020 | Date & Time : 18/03/20 2:22PM | 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ | ☐ Courier | 2.4°C |
| Signature: | Signature: | 5 DAY ☑ 10 DAY ☐ Other: | ☒ Hand Delivered | Report number: |
| | | | ☐ Postal | 708508 |
| | | | Courier Consignment # : | |

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Email: enquiries.melb@mgtlabmark.com.au

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CLIENT DETAILS



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|---|---|---|---|
| Company Name : GHD Pty Ltd, Sydney | Contact Name : Terry Nham | Purchase Order : | COC Number : |
| Office Address : | Project Manager : Henry Luo | PROJECT Number : 21-27234 | Eurofins \| mgt quote ID : GHD Rates 2020 |
| Level 15, 133 Castlereagh Street, Sydney NSW 2000 | Email for results : terry.nham@ghd.com henry.luo@ghd.com | PROJECT Name : Central | Data output format: ESDAT |

Special Directions & Comments :

Eurofins | mgt DI water batch number:

Analytes

| | Sample ID | Date | Matrix | TRH, BTEXN, 8 Metals (Dissolved) (Suite B6) | PAH - Trace LOR | Phenols | OCP, OPP, PCB (Suite B15) | TRH (with Silica Gel Cleanup) | Cyanide - Trace Level (<0.004 mg/L) | Ammonia | Major Anions and Cations | | Ferrous Iron | Manganese | pH | TDS | TSS | | TRH C6-C10 / BTEX | 8 Metals (Total) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RB01 | 17/03 | Water | | | | | | | | | | | | | | | | | X | | | | | |
| 2 | Trip Blank | 16/03 | Water | | | | | | | | | | | | | | | | X | | | | | | |
| 3 | Trip Spike | 16/03 | Water | | | | | | | | | | | | | | | | X | | | | | | |
| 4 | SRT_BH050 | 16/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 5 | SRT_BH060 | 16/03 | Water | X | X | X | X | X | X | X | X | | X | X | X | X | X | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | |

Some common holding times (with correct preservation).
For further information contact the lab

| Waters | | Soils | |
|---|---|---|---|
| BTEX, MAH, VOC | 14 days | BTEX, MAH, VOC | 14 days |
| TRH, PAH, Phenols, Pesticides | 7 days | TRH, PAH, Phenols, Pesticides | 14 days |
| Heavy Metals | 6 months | Heavy Metals | 6 months |
| Mercury, CrVI | 28 days | Mercury, CrVI | 28 days |
| Microbiological testing | 24 hours | Microbiological testing | 72 hours |
| BOD, Nitrate, Nitrite, Total N | 2 days | Anions | 28 days |
| Solids - TSS, TDS etc | 7 days | SPOCAS, pH Field and FOX, CrS | 24 hours |
| Ferrous iron | 7 days | ASLP, TCLP | 7 days |

Containers:

| | 500P | 250P | 60P | 1LA | 40mL vial | 200mL A | Jar | Bag | Sample comments: |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1 | | | | | | |
| 2 | | | | | 2 | | | | |
| 3 | | | | | 2 | | | | |
| 4 | 1 | | 4 | | 2 | 2 | | | |
| 5 | 1 | | 4 | | 2 | 1 | | | |

| Laboratory Staff | Turn around time | Method Of Shipment | |
|---|---|---|---|
| Relinquished By: Terry Nham - GHD | Received By: Rupan | 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ | ☐ Courier |
| Date & Time : 18/03/2020 | Date & Time : 18/03/20 | 5 DAY ☒ 10 DAY ☐ Other: | ☒ Hand Delivered |
| Signature: | Signature: | | ☐ Postal |
| | | | Courier Consignment # : |

Temperature on arrival:

Report number:

eurofins | Environment Testing

**Melbourne**
6 Monterey Road
Dandenong South Vic 3175
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NATA # 1261
Site # 1254 & 14271

**Sydney**
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NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

| | |
|---|---|
| Company name: | **GHD Pty Ltd NSW** |
| Contact name: | Henry Luo |
| Project name: | CENTRAL |
| Project ID: | 21-27234 |
| COC number: | Not provided |
| Turn around time: | 5 Day |
| Date/Time received: | Mar 18, 2020 2:22 PM |
| Eurofins reference: | **708508** |

## Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 2.4 degrees Celsius.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☑ Sample containers for volatile analysis received with zero headspace.
- ☒ Split sample sent to requested external lab.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

## Notes

Sample CSM_BH08, received as 2X FERROUS containers, and none for sample CSM_BH04, thus subsampled from an Unpreserved container.

## Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Henry Luo - henry.luo@ghd.com.

*Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.*

**GHD Pty Ltd NSW**
**Level 15, 133 Castlereagh Street**
**Sydney**
**NSW 2000**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Henry Luo**

**Report** **708508-W**
Project name CENTRAL
Project ID 21-27234
Received Date Mar 18, 2020

| **Client Sample ID** | | | **CSM_BH02** | **CSM_BH04** | **CSM_BH06** | **CSM_BH08** |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Water** | **Water** | **Water** | **Water** |
| **Eurofins Sample No.** | | | **S20-Ma26630** | **S20-Ma26631** | **S20-Ma26632** | **S20-Ma26633** |
| **Date Sampled** | | | **Mar 18, 2020** | **Mar 18, 2020** | **Mar 16, 2020** | **Mar 18, 2020** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total* | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 109 | 107 | 112 | 103 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26630 | S20-Ma26631 | S20-Ma26632 | S20-Ma26633 |
| Date Sampled | | | Mar 18, 2020 | Mar 18, 2020 | Mar 16, 2020 | Mar 18, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.02 | < 0.01 | < 0.02 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0002 | < 0.0001 | < 0.0002 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 117 | 65 | 86 | 48 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 79 | 48 | 62 | 41 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26630 | S20-Ma26631 | S20-Ma26632 | S20-Ma26633 |
| Date Sampled | | | Mar 18, 2020 | Mar 18, 2020 | Mar 16, 2020 | Mar 18, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 134 | 89 | 112 | 54 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1242 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1248 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1254 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1260 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 117 | 65 | 86 | 48 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 79 | 48 | 62 | 41 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 44 | 20 | 37 | 38 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |

| Client Sample ID | | | CSM_BH02 | CSM_BH04 | CSM_BH06 | CSM_BH08 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26630 | S20-Ma26631 | S20-Ma26632 | S20-Ma26633 |
| Date Sampled | | | Mar 18, 2020 | Mar 18, 2020 | Mar 16, 2020 | Mar 18, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 64 | 58 | 61 | 94 |
| p-Terphenyl-d14 (surr.) | 1 | % | 90 | 73 | 79 | 129 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.05 | 0.11 | 0.05 | 0.08 |
| Chloride | 1 | mg/L | 150 | 90 | 220 | 92 |
| Cyanide (total) | 0.004 | mg/L | 0.008 | 0.006 | 0.005 | 0.005 |
| Ferrous Iron - Fe2+ | 0.5 | mg/L | < 0.5 | 17 | 5.3 | 3.4 |
| Nitrate (as N) | 0.02 | mg/L | 0.04 | < 0.02 | < 0.02 | 0.03 |
| pH (at 25°C) | 0.1 | pH Units | 7.0 | 6.3 | 6.3 | 6.4 |
| Sulphate (as SO4) | 2 | mg/L | 32 | 38 | 24 | 45 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 5 | mg/L | 870 | 210 | 430 | 270 |
| Total Suspended Solids Dried at 103–105°C | 5 | mg/L | 1800 | 1300 | 110 | 130 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 310 | 100 | 120 | 85 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 43 | 10 | 28 | 8.9 |
| Magnesium | 0.5 | mg/L | 39 | 17 | 30 | 14 |
| Potassium | 0.5 | mg/L | 7.2 | 5.5 | 4.6 | 3.4 |
| Sodium | 0.5 | mg/L | 110 | 65 | 110 | 77 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | 0.002 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.009 | 0.001 | 0.002 | 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.091 | 0.33 | 0.34 | 0.29 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.009 | 0.007 | 0.006 | 0.002 |
| Zinc (filtered) | 0.005 | mg/L | 0.041 | 0.026 | 0.041 | 0.028 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26634 | S20-Ma26635 | S20-Ma26636 | S20-Ma26637 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26634 | S20-Ma26635 | S20-Ma26636 | S20-Ma26637 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total* | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 92 | 91 | 100 | 103 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 123 | 87 | 114 | 83 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 72 | 82 | 68 | 79 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26634 | S20-Ma26635 | S20-Ma26636 | S20-Ma26637 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Fenthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Malathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | 112 | 99 | 89 | 99 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1242 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1248 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1254 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Aroclor-1260 | 0.005 | mg/L | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Total PCB* | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | 123 | 87 | 114 | 83 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 72 | 82 | 68 | 79 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26634 | S20-Ma26635 | S20-Ma26636 | S20-Ma26637 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (Halogenated)** | | | | | | |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 31 | 49 | 33 | 36 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 65 | 69 | 75 | 140 |
| p-Terphenyl-d14 (surr.) | 1 | % | 76 | 66 | 88 | 79 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.05 | 0.03 | 0.11 | 0.07 |
| Chloride | 1 | mg/L | 46 | 23 | 25 | 35 |
| Cyanide (total) | 0.004 | mg/L | 0.005 | 0.005 | < 0.004 | 0.005 |
| Ferrous Iron - Fe2+ | 0.5 | mg/L | 5.6 | < 0.5 | < 0.5 | < 0.5 |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | 1.7 | 22 | 11 |
| pH (at 25°C) | 0.1 | pH Units | 6.1 | 5.7 | 7.0 | 6.2 |
| Sulphate (as SO4) | 2 | mg/L | 120 | 58 | 15 | 15 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 5 | mg/L | 330 | 170 | 230 | 100 |
| Total Suspended Solids Dried at 103–105°C | 5 | mg/L | 59 | 53 | 14 | 210 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 60 | 25 | 60 | 28 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |

| Client Sample ID | | | CSM_BH09S | CSM_BH10S | SRT_BH047 | SRT_BH052 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26634 | S20-Ma26635 | S20-Ma26636 | S20-Ma26637 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 3.3 | 4.4 | 29 | 8.7 |
| Magnesium | 0.5 | mg/L | 6.9 | 6.0 | 9.6 | 4.1 |
| Potassium | 0.5 | mg/L | 3.0 | 3.0 | 1.4 | 2.0 |
| Sodium | 0.5 | mg/L | 100 | 31 | 29 | 38 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.009 | 0.001 | 0.003 | 0.002 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | 0.67 | 0.54 | 0.009 | 0.012 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.008 | 0.002 | 0.002 | 0.002 |
| Zinc (filtered) | 0.005 | mg/L | 0.047 | < 0.005 | 0.011 | 0.005 |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26638 | S20-Ma26639 | S20-Ma26640 | S20-Ma26641 |
| Date Sampled | | | Mar 16, 2020 | Mar 17, 2020 | Mar 18, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | 0.44 | 0.10 | 0.51 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | < 0.05 | 0.44 | 0.1 | 0.51 |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | 0.1 | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | 0.54 | 0.1 | 0.51 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | 0.31 | 0.10 | 0.36 |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | 0.6 | < 0.1 | 0.4 |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | 0.91 | 0.1 | 0.76 |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 0.003 | < 0.001 | 0.002 |
| Toluene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | < 0.002 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Xylenes - Total* | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 104 | 94 | 95 | 107 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | - | - | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | - | - | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | - | - | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | - | - | - |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26638 | S20-Ma26639 | S20-Ma26640 | S20-Ma26641 |
| Date Sampled | | | Mar 16, 2020 | Mar 17, 2020 | Mar 18, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organochlorine Pesticides** | | | | | | |
| a-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | - | - | - |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | - | - | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | - | - | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | - | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibutylchlorendate (surr.) | 1 | % | 91 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 75 | - | - | - |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | < 0.002 | - | - | - |
| Bolstar | 0.002 | mg/L | < 0.002 | - | - | - |
| Chlorfenvinphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Chlorpyrifos | 0.02 | mg/L | < 0.02 | - | - | - |
| Chlorpyrifos-methyl | 0.002 | mg/L | < 0.002 | - | - | - |
| Coumaphos | 0.02 | mg/L | < 0.02 | - | - | - |
| Demeton-S | 0.02 | mg/L | < 0.02 | - | - | - |
| Demeton-O | 0.002 | mg/L | < 0.002 | - | - | - |
| Diazinon | 0.002 | mg/L | < 0.002 | - | - | - |
| Dichlorvos | 0.002 | mg/L | < 0.002 | - | - | - |
| Dimethoate | 0.002 | mg/L | < 0.002 | - | - | - |
| Disulfoton | 0.002 | mg/L | < 0.002 | - | - | - |
| EPN | 0.002 | mg/L | < 0.002 | - | - | - |
| Ethion | 0.002 | mg/L | < 0.002 | - | - | - |
| Ethoprop | 0.002 | mg/L | < 0.002 | - | - | - |
| Ethyl parathion | 0.002 | mg/L | < 0.002 | - | - | - |
| Fenitrothion | 0.002 | mg/L | < 0.002 | - | - | - |
| Fensulfothion | 0.002 | mg/L | < 0.002 | - | - | - |
| Fenthion | 0.002 | mg/L | < 0.002 | - | - | - |
| Malathion | 0.002 | mg/L | < 0.002 | - | - | - |
| Merphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Methyl parathion | 0.002 | mg/L | < 0.002 | - | - | - |
| Mevinphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Monocrotophos | 0.002 | mg/L | < 0.002 | - | - | - |
| Naled | 0.002 | mg/L | < 0.002 | - | - | - |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26638 | S20-Ma26639 | S20-Ma26640 | S20-Ma26641 |
| Date Sampled | | | Mar 16, 2020 | Mar 17, 2020 | Mar 18, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Omethoate | 0.002 | mg/L | < 0.002 | - | - | - |
| Phorate | 0.002 | mg/L | < 0.002 | - | - | - |
| Pirimiphos-methyl | 0.02 | mg/L | < 0.02 | - | - | - |
| Pyrazophos | 0.002 | mg/L | < 0.002 | - | - | - |
| Ronnel | 0.002 | mg/L | < 0.002 | - | - | - |
| Terbufos | 0.002 | mg/L | < 0.002 | - | - | - |
| Tetrachlorvinphos | 0.002 | mg/L | < 0.002 | - | - | - |
| Tokuthion | 0.002 | mg/L | < 0.002 | - | - | - |
| Trichloronate | 0.002 | mg/L | < 0.002 | - | - | - |
| Triphenylphosphate (surr.) | 1 | % | 106 | - | - | - |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1232 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1242 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1248 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1254 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1260 | 0.005 | mg/L | < 0.005 | - | - | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibutylchlorendate (surr.) | 1 | % | 91 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 75 | - | - | - |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | < 0.006 | 0.033 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | < 0.003 | < 0.003 | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | 37 | 33 | 38 | 38 |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | - | < 0.05 | < 0.05 | < 0.05 |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | - | 0.1 | 0.2 | 0.2 |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | - | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26638 | S20-Ma26639 | S20-Ma26640 | S20-Ma26641 |
| Date Sampled | | | Mar 16, 2020 | Mar 17, 2020 | Mar 18, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.4 | mg/L | - | < 0.1 | 0.1 | < 0.1 |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | - | < 0.05 | < 0.05 | < 0.05 |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | - | < 0.1 | 0.1 | < 0.1 |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | - | < 0.1 | < 0.1 | < 0.1 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | < 0.00001 | 0.00010 | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | < 0.00001 | 0.0001 | < 0.00001 | < 0.00001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 65 | 87 | 67 | 55 |
| p-Terphenyl-d14 (surr.) | 1 | % | 54 | 85 | 84 | 66 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.02 | 0.09 | 0.02 | 0.06 |
| Chloride | 1 | mg/L | 9.5 | 25 | 190 | 44 |
| Cyanide (total) | 0.004 | mg/L | 0.005 | 0.005 | 0.005 | 0.005 |
| Ferrous Iron - Fe2+ | 0.5 | mg/L | < 0.5 | 1.3 | 8.6 | 2.1 |
| Nitrate (as N) | 0.02 | mg/L | 2.3 | < 0.02 | < 0.02 | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 7.0 | 3.9 | 6.5 | 6.0 |
| Sulphate (as SO4) | 2 | mg/L | 12 | 110 | < 2 | 44 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 5 | mg/L | 180 | 180 | 1000 | 190 |
| Total Suspended Solids Dried at 103–105°C | 5 | mg/L | 20 | 67 | 250 | 300 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 150 | < 20 | 460 | 240 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 52 | 1.8 | 98 | 15 |
| Magnesium | 0.5 | mg/L | 5.2 | 5.1 | 56 | 6.3 |
| Potassium | 0.5 | mg/L | 7.3 | 1.0 | 15 | 3.3 |
| Sodium | 0.5 | mg/L | 9.7 | 54 | 140 | 41 |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.001 | < 0.001 | 0.002 | 0.002 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.009 | 0.012 | < 0.001 | 0.013 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | 0.004 | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | < 0.005 | 0.13 | 0.39 | 0.16 |

| Client Sample ID | | | SRT_BH059 | GASW_BH7 | GASW_BH10 | GASW_BH11 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26638 | S20-Ma26639 | S20-Ma26640 | S20-Ma26641 |
| Date Sampled | | | Mar 16, 2020 | Mar 17, 2020 | Mar 18, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Heavy Metals** | | | | | | |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | 0.006 | 0.003 | 0.018 | 0.007 |
| Zinc (filtered) | 0.005 | mg/L | 0.042 | 0.018 | 0.015 | 0.062 |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25a | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26642 | S20-Ma26643 | S20-Ma26644 | S20-Ma26645 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 17, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.1 | < 2 | < 0.01 | - |
| TRH C6-C10 | 0.02 | mg/L | 1.1 | 23 | < 0.02 | - |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | 0.42 | 7.0 | < 0.02 | - |
| TRH >C10-C16 | 0.05 | mg/L | 0.15 | 0.24 | < 0.05 | - |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | 0.15 | < 2 | < 0.05 | - |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | - |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | - |
| TRH >C10-C40 (total)* | 0.1 | mg/L | 0.15 | 0.24 | < 0.1 | - |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | 1.3 | 22 | < 0.02 | - |
| TRH C10-C14 | 0.05 | mg/L | 0.14 | 0.27 | < 0.05 | - |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | 0.1 | < 0.1 | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | < 0.1 | < 0.1 | - |
| TRH C10-C36 (Total) | 0.1 | mg/L | 0.14 | 0.37 | < 0.1 | - |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | 0.64 | 9.8 | < 0.001 | - |
| Toluene | 0.001 | mg/L | 0.045 | 4.9 | 0.001 | - |
| Ethylbenzene | 0.001 | mg/L | < 0.01 | 0.30 | < 0.001 | - |
| m&p-Xylenes | 0.002 | mg/L | < 0.02 | 0.70 | < 0.002 | - |
| o-Xylene | 0.001 | mg/L | < 0.01 | 0.34 | < 0.001 | - |
| Xylenes - Total* | 0.003 | mg/L | < 0.03 | 1.0 | < 0.003 | - |
| 4-Bromofluorobenzene (surr.) | 1 | % | 104 | 113 | 112 | - |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| 2.6-Dichlorophenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| Pentachlorophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| Tetrachlorophenols - Total | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| Total Halogenated Phenol* | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | < 0.003 | 0.021 | - | - |
| 2-Nitrophenol | 0.01 | mg/L | < 0.01 | < 0.01 | - | - |

| Client Sample ID | | | R16GASW_BH23 | R16GASW_BH25a | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26642 | S20-Ma26643 | S20-Ma26644 | S20-Ma26645 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 17, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (non-Halogenated)** | | | | | | |
| 2.4-Dimethylphenol | 0.003 | mg/L | < 0.003 | < 0.003 | - | - |
| 2.4-Dinitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | < 0.006 | 0.026 | - | - |
| 4-Nitrophenol | 0.03 | mg/L | < 0.03 | < 0.03 | - | - |
| Dinoseb | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| Phenol | 0.003 | mg/L | 0.006 | 0.089 | - | - |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | < 0.1 | 0.136 | - | - |
| Phenol-d6 (surr.) | 1 | % | 35 | 39 | - | - |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | 0.07 | - | - |
| TRH >C16-C34 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| TRH >C34-C40 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 0.4 | mg/L | < 0.1 | 0.1 | - | - |
| TRH C10-C14 (after silica gel clean-up) | 0.05 | mg/L | < 0.05 | 0.10 | - | - |
| TRH C15-C28 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| TRH C29-C36 (after silica gel clean-up) | 0.1 | mg/L | < 0.1 | < 0.1 | - | - |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | 0.00026 | 0.00033 | < 0.00001 | - |
| Acenaphthylene | 0.00001 | mg/L | < 0.00001 | 0.00015 | < 0.00001 | - |
| Anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | - |
| Benz(a)anthracene | 0.00001 | mg/L | < 0.00001 | 0.00009 | < 0.00001 | - |
| Benzo(a)pyrene | 0.00001 | mg/L | < 0.00001 | 0.00008 | < 0.00001 | - |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | < 0.00001 | 0.00007 | < 0.00001 | - |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | < 0.00001 | 0.00003 | < 0.00001 | - |
| Benzo(k)fluoranthene | 0.00001 | mg/L | < 0.00001 | 0.00006 | < 0.00001 | - |
| Chrysene | 0.00001 | mg/L | < 0.00001 | 0.00010 | < 0.00001 | - |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | < 0.00001 | < 0.00001 | < 0.00001 | - |
| Fluoranthene | 0.00001 | mg/L | 0.00012 | 0.00051 | < 0.00001 | - |
| Fluorene | 0.00001 | mg/L | 0.00016 | 0.00068 | < 0.00001 | - |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | < 0.00001 | 0.00002 | < 0.00001 | - |
| Naphthalene | 0.00001 | mg/L | 0.00043 | 0.0064 | < 0.00001 | - |
| Phenanthrene | 0.00001 | mg/L | 0.00007 | 0.00075 | < 0.00001 | - |
| Pyrene | 0.00001 | mg/L | 0.00017 | 0.00062 | < 0.00001 | - |
| Total PAH* | 0.00001 | mg/L | 0.00121 | 0.00989 | < 0.00001 | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | 95 | 55 | 75 | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 108 | 60 | 99 | - |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.31 | 0.27 | - | - |
| Chloride | 1 | mg/L | 13 | 11 | - | - |
| Cyanide (total) | 0.004 | mg/L | 0.009 | 0.032 | - | - |
| Ferrous Iron - Fe2+ | 0.5 | mg/L | 1.3 | < 0.5 | - | - |
| Nitrate (as N) | 0.02 | mg/L | < 0.02 | 0.13 | - | - |
| pH (at 25°C) | 0.1 | pH Units | 7.1 | 7.3 | - | - |
| Sulphate (as SO4) | 2 | mg/L | 120 | 47 | - | - |
| Total Dissolved Solids Dried at 180°C ± 2°C | 5 | mg/L | 360 | 220 | - | - |
| Total Suspended Solids Dried at 103–105°C | 5 | mg/L | 28 | 16 | - | - |

| Client Sample ID | | | [R16]GASW_BH23 | [R16]GASW_BH25a | QC02 | RB01 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26642 | S20-Ma26643 | S20-Ma26644 | S20-Ma26645 |
| Date Sampled | | | Mar 17, 2020 | Mar 17, 2020 | Mar 17, 2020 | Mar 17, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 160 | 99 | - | - |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | - | - |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | 82 | 41 | - | - |
| Magnesium | 0.5 | mg/L | 6.8 | 3.1 | - | - |
| Potassium | 0.5 | mg/L | 8.7 | 4.2 | - | - |
| Sodium | 0.5 | mg/L | 25 | 20 | - | - |
| **Heavy Metals** | | | | | | |
| Arsenic | 0.001 | mg/L | - | - | - | < 0.001 |
| Arsenic (filtered) | 0.001 | mg/L | 0.005 | 0.008 | 0.001 | - |
| Cadmium | 0.0002 | mg/L | - | - | - | < 0.0002 |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | < 0.0002 | - |
| Chromium | 0.001 | mg/L | - | - | - | < 0.001 |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Copper | 0.001 | mg/L | - | - | - | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | 0.001 | 0.008 | < 0.001 | - |
| Lead | 0.001 | mg/L | - | - | - | < 0.001 |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Manganese (filtered) | 0.005 | mg/L | 0.20 | 0.029 | - | - |
| Mercury | 0.0001 | mg/L | - | - | - | < 0.0001 |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Nickel | 0.001 | mg/L | - | - | - | < 0.001 |
| Nickel (filtered) | 0.001 | mg/L | 0.001 | 0.008 | 0.002 | - |
| Zinc | 0.005 | mg/L | - | - | - | < 0.005 |
| Zinc (filtered) | 0.005 | mg/L | 0.037 | 0.047 | < 0.005 | - |

| Client Sample ID | | | TRIP BLANK | [R20]TRIP SPIKE | SRT_BH050 | SRT_BH060 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26646 | S20-Ma26647 | S20-Ma26648 | S20-Ma26649 |
| Date Sampled | | | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.01 | mg/L | < 0.01 | 100 | < 0.01 | < 0.01 |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | 71 | < 0.02 | < 0.02 |
| TRH C6-C10 less BTEX (F1)[N04] | 0.02 | mg/L | < 0.02 | - | < 0.02 | < 0.02 |
| TRH >C10-C16 | 0.05 | mg/L | - | - | < 0.05 | < 0.05 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 0.05 | mg/L | - | - | < 0.05 | < 0.05 |
| TRH >C16-C34 | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| TRH >C34-C40 | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| TRH >C10-C40 (total)* | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | 72 | < 0.02 | < 0.02 |
| TRH C10-C14 | 0.05 | mg/L | - | - | < 0.05 | < 0.05 |
| TRH C15-C28 | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| TRH C29-C36 | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| TRH C10-C36 (Total) | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |

| Client Sample ID | | | TRIP BLANK | R20TRIP SPIKE | SRT_BH050 | SRT_BH060 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26646 | S20-Ma26647 | S20-Ma26648 | S20-Ma26649 |
| Date Sampled | | | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **BTEX** | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | 100 | < 0.001 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | 100 | < 0.001 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | 100 | < 0.001 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | 94 | < 0.002 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | 100 | < 0.001 | < 0.001 |
| Xylenes - Total* | 0.003 | mg/L | < 0.003 | 97 | < 0.003 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 114 | 95 | 110 | 107 |
| **Organochlorine Pesticides** | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | - | - | < 0.001 | < 0.001 |
| 4.4'-DDD | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| 4.4'-DDE | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| 4.4'-DDT | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| a-BHC | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Aldrin | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| b-BHC | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| d-BHC | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Dieldrin | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Endosulfan I | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Endosulfan II | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Endosulfan sulphate | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Endrin | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Endrin aldehyde | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Endrin ketone | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| g-BHC (Lindane) | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Heptachlor | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Heptachlor epoxide | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Hexachlorobenzene | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Methoxychlor | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Toxaphene | 0.01 | mg/L | - | - | < 0.01 | < 0.01 |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | - | - | < 0.001 | < 0.001 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | - | - | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | - | - | 93 | 64 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | - | INT | 55 |
| **Organophosphorus Pesticides** | | | | | | |
| Azinphos-methyl | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Bolstar | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Chlorfenvinphos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Chlorpyrifos | 0.02 | mg/L | - | - | < 0.02 | < 0.02 |
| Chlorpyrifos-methyl | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Coumaphos | 0.02 | mg/L | - | - | < 0.02 | < 0.02 |
| Demeton-S | 0.02 | mg/L | - | - | < 0.02 | < 0.02 |
| Demeton-O | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Diazinon | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Dichlorvos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Dimethoate | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Disulfoton | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| EPN | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |

| Client Sample ID | | | TRIP BLANK | [R20]TRIP SPIKE | SRT_BH050 | SRT_BH060 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26646 | S20-Ma26647 | S20-Ma26648 | S20-Ma26649 |
| Date Sampled | | | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Organophosphorus Pesticides** | | | | | | |
| Ethion | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Ethoprop | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Ethyl parathion | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Fenitrothion | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Fensulfothion | 0.002 | mg/L | - | - | < 0.5 | < 0.5 |
| Fenthion | 0.002 | mg/L | - | - | < 0.5 | < 0.5 |
| Malathion | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Merphos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Methyl parathion | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Mevinphos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Monocrotophos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Naled | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Omethoate | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Phorate | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Pirimiphos-methyl | 0.02 | mg/L | - | - | < 0.02 | < 0.02 |
| Pyrazophos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Ronnel | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Terbufos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Tetrachlorvinphos | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Tokuthion | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Trichloronate | 0.002 | mg/L | - | - | < 0.002 | < 0.002 |
| Triphenylphosphate (surr.) | 1 | % | - | - | 107 | 103 |
| **Polychlorinated Biphenyls** | | | | | | |
| Aroclor-1016 | 0.005 | mg/L | - | - | < 0.005 | < 0.005 |
| Aroclor-1221 | 0.001 | mg/L | - | - | < 0.001 | < 0.001 |
| Aroclor-1232 | 0.005 | mg/L | - | - | < 0.005 | < 0.005 |
| Aroclor-1242 | 0.005 | mg/L | - | - | < 0.005 | < 0.005 |
| Aroclor-1248 | 0.005 | mg/L | - | - | < 0.005 | < 0.005 |
| Aroclor-1254 | 0.005 | mg/L | - | - | < 0.005 | < 0.005 |
| Aroclor-1260 | 0.005 | mg/L | - | - | < 0.005 | < 0.005 |
| Total PCB* | 0.001 | mg/L | - | - | < 0.001 | < 0.001 |
| Dibutylchlorendate (surr.) | 1 | % | - | - | 93 | 64 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | - | INT | 55 |
| **Phenols (Halogenated)** | | | | | | |
| 2-Chlorophenol | 0.003 | mg/L | - | - | < 0.003 | < 0.003 |
| 2.4-Dichlorophenol | 0.003 | mg/L | - | - | < 0.003 | < 0.003 |
| 2.4.5-Trichlorophenol | 0.01 | mg/L | - | - | < 0.01 | < 0.01 |
| 2.4.6-Trichlorophenol | 0.01 | mg/L | - | - | < 0.01 | < 0.01 |
| 2.6-Dichlorophenol | 0.003 | mg/L | - | - | < 0.003 | < 0.003 |
| 4-Chloro-3-methylphenol | 0.01 | mg/L | - | - | < 0.01 | < 0.01 |
| Pentachlorophenol | 0.01 | mg/L | - | - | < 0.01 | < 0.01 |
| Tetrachlorophenols - Total | 0.03 | mg/L | - | - | < 0.03 | < 0.03 |
| Total Halogenated Phenol* | 0.01 | mg/L | - | - | < 0.01 | < 0.01 |
| **Phenols (non-Halogenated)** | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| 2-Methyl-4.6-dinitrophenol | 0.03 | mg/L | - | - | < 0.03 | < 0.03 |
| 2-Methylphenol (o-Cresol) | 0.003 | mg/L | - | - | < 0.003 | < 0.003 |
| 2-Nitrophenol | 0.01 | mg/L | - | - | < 0.01 | < 0.01 |
| 2.4-Dimethylphenol | 0.003 | mg/L | - | - | < 0.003 | < 0.003 |

| Client Sample ID | | | TRIP BLANK | [R20]TRIP SPIKE | SRT_BH050 | SRT_BH060 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26646 | S20-Ma26647 | S20-Ma26648 | S20-Ma26649 |
| Date Sampled | | | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Phenols (non-Halogenated)** | | | | | | |
| 2.4-Dinitrophenol | 0.03 | mg/L | - | - | < 0.03 | < 0.03 |
| 3&4-Methylphenol (m&p-Cresol) | 0.006 | mg/L | - | - | < 0.006 | < 0.006 |
| 4-Nitrophenol | 0.03 | mg/L | - | - | < 0.03 | < 0.03 |
| Dinoseb | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| Phenol | 0.003 | mg/L | - | - | < 0.003 | < 0.003 |
| Total Non-Halogenated Phenol* | 0.1 | mg/L | - | - | < 0.1 | < 0.1 |
| Phenol-d6 (surr.) | 1 | % | - | - | 26 | 32 |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | |
| Acenaphthene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Acenaphthylene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Anthracene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Benz(a)anthracene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Benzo(a)pyrene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Benzo(b&j)fluoranthene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Benzo(g.h.i)perylene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Benzo(k)fluoranthene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Chrysene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Dibenz(a.h)anthracene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Fluoranthene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Fluorene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Indeno(1.2.3-cd)pyrene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Naphthalene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Phenanthrene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Pyrene | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| Total PAH* | 0.00001 | mg/L | - | - | < 0.00001 | < 0.00001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | - | - | 69 | 122 |
| p-Terphenyl-d14 (surr.) | 1 | % | - | - | 87 | 110 |
| | | | | | | |
| Ammonia (as N) | 0.01 | mg/L | - | - | 0.08 | 0.05 |
| Chloride | 1 | mg/L | - | - | 10 | 31 |
| Cyanide (total) | 0.004 | mg/L | - | - | 0.006 | 0.007 |
| Ferrous Iron - Fe2+ | 0.5 | mg/L | - | - | < 0.5 | < 0.5 |
| Nitrate (as N) | 0.02 | mg/L | - | - | 7.1 | 4.1 |
| pH (at 25°C) | 0.1 | pH Units | - | - | 5.6 | 7.4 |
| Sulphate (as SO4) | 2 | mg/L | - | - | 48 | 30 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 5 | mg/L | - | - | 270 | 270 |
| Total Suspended Solids Dried at 103–105°C | 5 | mg/L | - | - | 210 | 370 |
| **Alkalinity (speciated)** | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | - | - | < 20 | 32 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | - | - | < 10 | < 10 |
| **Alkali Metals** | | | | | | |
| Calcium | 0.5 | mg/L | - | - | 17 | 41 |
| Magnesium | 0.5 | mg/L | - | - | 3.1 | 2.7 |
| Potassium | 0.5 | mg/L | - | - | 6.1 | 5.9 |
| Sodium | 0.5 | mg/L | - | - | 13 | 12 |

| Client Sample ID | | | TRIP BLANK | R20TRIP SPIKE | SRT_BH050 | SRT_BH060 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S20-Ma26646 | S20-Ma26647 | S20-Ma26648 | S20-Ma26649 |
| Date Sampled | | | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 | Mar 16, 2020 |
| Test/Reference | LOR | Unit | | | | |
| **Heavy Metals** | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | - | - | 0.001 | 0.001 |
| Cadmium (filtered) | 0.0002 | mg/L | - | - | < 0.0002 | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | - | - | < 0.001 | < 0.001 |
| Copper (filtered) | 0.001 | mg/L | - | - | 0.003 | 0.024 |
| Lead (filtered) | 0.001 | mg/L | - | - | < 0.001 | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | - | - | 0.022 | 0.010 |
| Mercury (filtered) | 0.0001 | mg/L | - | - | < 0.0001 | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | - | - | 0.002 | 0.008 |
| Zinc (filtered) | 0.005 | mg/L | - | - | 0.010 | 0.055 |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Sydney | Mar 18, 2020 | 14 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Eurofins \| mgt Suite B6 (filtered metals) | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Mar 18, 2020 | |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Metals M8 filtered | Sydney | Mar 18, 2020 | 28 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Organochlorine Pesticides | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Organophosphorus Pesticides | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS | | | |
| Polychlorinated Biphenyls | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Phenols (Halogenated) | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Phenols (non-Halogenated) | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Polycyclic Aromatic Hydrocarbons (Trace level) | Melbourne | Mar 25, 2020 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace) | | | |
| Cyanide (total) | Melbourne | Mar 19, 2020 | 14 Days |
| - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA | | | |
| Ferrous Iron - Fe2+ | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser | | | |
| pH (at 25°C) | Sydney | Mar 18, 2020 | 1 Days |
| - Method: LTM-GEN-7090 pH in water by ISE | | | |
| Total Suspended Solids Dried at 103–105°C | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | | | |
| Metals M8 | Sydney | Mar 24, 2020 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Heavy Metals (filtered) | Sydney | Mar 18, 2020 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Major Cations | | | |
| Ammonia (as N) | Melbourne | Mar 19, 2020 | 28 Days |
| - Method: LTM-INO-4200 Ammonia by Discrete Analyser | | | |
| Alkali Metals | Sydney | Mar 24, 2020 | 180 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Major Anions | | | |
| Chloride | Melbourne | Mar 18, 2020 | 28 Days |
| - Method: E045 /E047 Chloride | | | |
| - Method: LTM-INO-4090 Chloride by Discrete Analyser | | | |

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Nitrate (as N) | Melbourne | Mar 19, 2020 | 28 Days |
| - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | | | |
| Sulphate (as SO4) | Melbourne | Mar 18, 2020 | 28 Days |
| - Method: E045 Anions by Ion Chromatography | | | |
| - Method: LTM-INO-4110 Sulfate by Discrete Analyser | | | |
| Alkalinity (speciated) | Melbourne | Mar 18, 2020 | 14 Days |
| - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | Sydney | Mar 18, 2020 | 7 Days |
| - Method: LTM-INO-4170 Total Dissolved Solids in Water | | | |

eurofins | Environment Testing

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IANZ # 1290

**Company Name:** GHD Pty Ltd NSW
**Address:** Level 15, 133 Castlereagh Street
Sydney
NSW 2000

**Project Name:** CENTRAL
**Project ID:** 21-27234

**Order No.:**
**Report #:** 708508
**Phone:** 02 9239 7100
**Fax:** 02 9239 7199

**Received:** Mar 18, 2020 2:22 PM
**Due:** Mar 25, 2020
**Priority:** 5 Day
**Contact Name:** Henry Luo

**Eurofins Analytical Services Manager : Alena Bounkeua**

| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Suspended Solids Dried at 103–105°C | Metals M8 | Phenols (IWRG 621) | Eurofins \| mgt Suite B15 | Major Anions | Major Cations | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B6 (filtered metals) | BTEXN and Volatile TRH | Polycyclic Aromatic Hydrocarbons (Trace level) | Total Dissolved Solids Dried at 180°C ± 2°C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | | | | | | | | X | X | | | | X | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | | |
| **External Laboratory** | | | | | | | | | | | | | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | | | | | | | | | | | | | |
| 1 | CSM_BH02 | Mar 18, 2020 | | Water | S20-Ma26630 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 2 | CSM_BH04 | Mar 18, 2020 | | Water | S20-Ma26631 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 3 | CSM_BH06 | Mar 16, 2020 | | Water | S20-Ma26632 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 4 | CSM_BH08 | Mar 18, 2020 | | Water | S20-Ma26633 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 5 | CSM_BH09S | Mar 17, 2020 | | Water | S20-Ma26634 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 6 | CSM_BH10S | Mar 17, 2020 | | Water | S20-Ma26635 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 7 | SRT_BH047 | Mar 16, 2020 | | Water | S20-Ma26636 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 8 | SRT_BH052 | Mar 16, 2020 | | Water | S20-Ma26637 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 9 | SRT_BH059 | Mar 16, 2020 | | Water | S20-Ma26638 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 10 | GASW_BH7 | Mar 17, 2020 | | Water | S20-Ma26639 | X | X | X | X | X | | X | | X | X | X | X | | X | X |

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| Sample Detail | | | | | | Cyanide (total) | Ferrous Iron - Fe2+ | Manganese (filtered) | pH (at 25°C) | Total Suspended Solids Dried at 103–105°C | Metals M8 | Phenols (IWRG 621) | Eurofins \| mgt Suite B15 | Major Anions | Major Cations | TRH (after Silica Gel cleanup) | Eurofins \| mgt Suite B6 (filtered metals) | BTEXN and Volatile TRH | Polycyclic Aromatic Hydrocarbons (Trace level) | Total Dissolved Solids Dried at 180°C ± 2°C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | X | | | | | | | | X | X | | | | X | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | | | | | | | | | | | | | |
| **Perth Laboratory - NATA Site # 23736** | | | | | | | | | | | | | | | | | | | | |
| 11 | GASW_BH10 | Mar 18, 2020 | | Water | S20-Ma26640 | X | X | X | X | X | | X | | X | X | X | X | | X | X |
| 12 | GASW_BH11 | Mar 17, 2020 | | Water | S20-Ma26641 | X | X | X | X | X | | X | | X | X | X | X | | X | X |
| 13 | GASW_BH23 | Mar 17, 2020 | | Water | S20-Ma26642 | X | X | X | X | X | | X | | X | X | X | X | | X | X |
| 14 | GASW_BH25a | Mar 17, 2020 | | Water | S20-Ma26643 | X | X | X | X | X | | X | | X | X | X | X | | X | X |
| 15 | QC02 | Mar 17, 2020 | | Water | S20-Ma26644 | | | | | | | | | | | | X | | X | |
| 16 | RB01 | Mar 17, 2020 | | Water | S20-Ma26645 | | | | | | X | | | | | | | | | |
| 17 | TRIP BLANK | Mar 16, 2020 | | Water | S20-Ma26646 | | | | | | | | | | | | | X | | |
| 18 | TRIP SPIKE | Mar 16, 2020 | | Water | S20-Ma26647 | | | | | | | | | | | | | X | | |
| 19 | SRT_BH050 | Mar 16, 2020 | | Water | S20-Ma26648 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| 20 | SRT_BH060 | Mar 16, 2020 | | Water | S20-Ma26649 | X | X | X | X | X | | X | X | X | X | | X | | X | X |
| **Test Counts** | | | | | | 16 | 16 | 16 | 16 | 16 | 1 | 16 | 11 | 16 | 16 | 5 | 17 | 2 | 17 | 16 |

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per kilogram

**mg/L:** milligrams per litre

**ug/L:** micrograms per litre

**ppm:** Parts per million

**ppb:** Parts per billion

**%:** Percentage

**org/100mL:** Organisms per 100 millilitres

**NTU:** Nephelometric Turbidity Units

**MPN/100mL:** Most Probable Number of organisms per 100 millilitres

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery. |
| **CRM** | Certified Reference Material - reported as percent recovery. |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **QSM** | US Department of Defense Quality Systems Manual Version 5.3 |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within. |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | mg/L | < 0.01 | | | 0.01 | Pass | |
| TRH C6-C10 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH >C10-C16 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | mg/L | < 0.02 | | | 0.02 | Pass | |
| TRH C10-C14 | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Toluene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Ethylbenzene | mg/L | < 0.001 | | | 0.001 | Pass | |
| m&p-Xylenes | mg/L | < 0.002 | | | 0.002 | Pass | |
| o-Xylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Xylenes - Total* | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | mg/L | < 0.001 | | | 0.001 | Pass | |
| 4.4'-DDD | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDE | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4.4'-DDT | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan I | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan sulphate | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.01 | | | 0.01 | Pass | |
| **Method Blank** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Azinphos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Bolstar | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorfenvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Chlorpyrifos | mg/L | < 0.02 | | | 0.02 | Pass | |
| Chlorpyrifos-methyl | mg/L | < 0.002 | | | 0.002 | Pass | |
| Coumaphos | mg/L | < 0.02 | | | 0.02 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Demeton-S | mg/L | < 0.02 | | | 0.02 | Pass | |
| Demeton-O | mg/L | < 0.002 | | | 0.002 | Pass | |
| Diazinon | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dichlorvos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Dimethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Disulfoton | mg/L | < 0.002 | | | 0.002 | Pass | |
| EPN | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethoprop | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ethyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenitrothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fensulfothion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Fenthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Malathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Merphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Methyl parathion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Mevinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Monocrotophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Naled | mg/L | < 0.002 | | | 0.002 | Pass | |
| Omethoate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Phorate | mg/L | < 0.002 | | | 0.002 | Pass | |
| Pirimiphos-methyl | mg/L | < 0.02 | | | 0.02 | Pass | |
| Pyrazophos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Ronnel | mg/L | < 0.002 | | | 0.002 | Pass | |
| Terbufos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tetrachlorvinphos | mg/L | < 0.002 | | | 0.002 | Pass | |
| Tokuthion | mg/L | < 0.002 | | | 0.002 | Pass | |
| Trichloronate | mg/L | < 0.002 | | | 0.002 | Pass | |
| **Method Blank** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1016 | mg/L | < 0.005 | | | 0.005 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | | | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.005 | | | 0.005 | Pass | |
| Aroclor-1242 | mg/L | < 0.005 | | | 0.005 | Pass | |
| Aroclor-1248 | mg/L | < 0.005 | | | 0.005 | Pass | |
| Aroclor-1254 | mg/L | < 0.005 | | | 0.005 | Pass | |
| Aroclor-1260 | mg/L | < 0.005 | | | 0.005 | Pass | |
| Total PCB* | mg/L | < 0.001 | | | 0.001 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2-Chlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4.5-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.4.6-Trichlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| 2.6-Dichlorophenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 4-Chloro-3-methylphenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Pentachlorophenol | mg/L | < 0.01 | | | 0.01 | Pass | |
| Tetrachlorophenols - Total | mg/L | < 0.03 | | | 0.03 | Pass | |
| **Method Blank** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | mg/L | < 0.1 | | | 0.1 | Pass | |
| 2-Methyl-4.6-dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 2-Methylphenol (o-Cresol) | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2-Nitrophenol | mg/L | < 0.01 | | | 0.01 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| 2.4-Dimethylphenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| 2.4-Dinitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| 3&4-Methylphenol (m&p-Cresol) | mg/L | < 0.006 | | | 0.006 | Pass | |
| 4-Nitrophenol | mg/L | < 0.03 | | | 0.03 | Pass | |
| Dinoseb | mg/L | < 0.1 | | | 0.1 | Pass | |
| Phenol | mg/L | < 0.003 | | | 0.003 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH >C16-C34 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH >C34-C40 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | mg/L | < 0.05 | | | 0.05 | Pass | |
| TRH C15-C28 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| TRH C29-C36 (after silica gel clean-up) | mg/L | < 0.1 | | | 0.1 | Pass | |
| **Method Blank** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | | |
| Acenaphthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Acenaphthylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benz(a)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(g.h.i)perylene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Chrysene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Dibenz(a.h)anthracene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluoranthene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Fluorene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Naphthalene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Phenanthrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| Pyrene | mg/L | < 0.00001 | | | 0.00001 | Pass | |
| **Method Blank** | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Chloride | mg/L | < 1 | | | 1 | Pass | |
| Ferrous Iron - Fe2+ | mg/L | < 0.5 | | | 0.5 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Sulphate (as SO4) | mg/L | < 2 | | | 2 | Pass | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 5 | | | 5 | Pass | |
| **Method Blank** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Magnesium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Potassium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Sodium | mg/L | < 0.5 | | | 0.5 | Pass | |
| **Method Blank** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | mg/L | < 0.001 | | | 0.001 | Pass | |
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Cadmium | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium | mg/L | < 0.001 | | | 0.001 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead | mg/L | < 0.001 | | | 0.001 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| Mercury | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Mercury (filtered) | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Nickel | mg/L | < 0.001 | | | 0.001 | Pass | |
| Nickel (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Zinc | mg/L | < 0.005 | | | 0.005 | Pass | |
| Zinc (filtered) | mg/L | < 0.005 | | | 0.005 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | % | 116 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 85 | | | 70-130 | Pass | |
| TRH >C10-C16 | % | 77 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | % | 100 | | | 70-130 | Pass | |
| TRH C10-C14 | % | 80 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | % | 94 | | | 70-130 | Pass | |
| Toluene | % | 105 | | | 70-130 | Pass | |
| Ethylbenzene | % | 105 | | | 70-130 | Pass | |
| m&p-Xylenes | % | 107 | | | 70-130 | Pass | |
| o-Xylene | % | 108 | | | 70-130 | Pass | |
| Xylenes - Total* | % | 107 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organochlorine Pesticides** | | | | | | | |
| Chlordanes - Total | % | 115 | | | 70-130 | Pass | |
| 4.4'-DDE | % | 125 | | | 70-130 | Pass | |
| 4.4'-DDT | % | 118 | | | 70-130 | Pass | |
| a-BHC | % | 101 | | | 70-130 | Pass | |
| Aldrin | % | 115 | | | 70-130 | Pass | |
| b-BHC | % | 101 | | | 70-130 | Pass | |
| d-BHC | % | 108 | | | 70-130 | Pass | |
| Dieldrin | % | 116 | | | 70-130 | Pass | |
| Endosulfan I | % | 88 | | | 70-130 | Pass | |
| Endosulfan II | % | 104 | | | 70-130 | Pass | |
| Endrin | % | 83 | | | 70-130 | Pass | |
| Endrin aldehyde | % | 122 | | | 70-130 | Pass | |
| Endrin ketone | % | 73 | | | 70-130 | Pass | |
| g-BHC (Lindane) | % | 102 | | | 70-130 | Pass | |
| Heptachlor | % | 123 | | | 70-130 | Pass | |
| Heptachlor epoxide | % | 84 | | | 70-130 | Pass | |
| Hexachlorobenzene | % | 100 | | | 70-130 | Pass | |
| Methoxychlor | % | 110 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Organophosphorus Pesticides** | | | | | | | |
| Diazinon | % | 74 | | | 70-130 | Pass | |
| Fenitrothion | % | 89 | | | 70-130 | Pass | |
| Mevinphos | % | 87 | | | 70-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **LCS - % Recovery** | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | |
| Aroclor-1260 | % | 109 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (Halogenated)** | | | | | | | |
| 2.4-Dichlorophenol | % | 73 | | | 30-130 | Pass | |
| 2.4.6-Trichlorophenol | % | 73 | | | 30-130 | Pass | |
| 4-Chloro-3-methylphenol | % | 76 | | | 30-130 | Pass | |
| Pentachlorophenol | % | 80 | | | 30-130 | Pass | |
| Tetrachlorophenols - Total | % | 73 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Phenols (non-Halogenated)** | | | | | | | |
| 2-Cyclohexyl-4.6-dinitrophenol | % | 112 | | | 30-130 | Pass | |
| 2-Nitrophenol | % | 91 | | | 30-130 | Pass | |
| 2.4-Dimethylphenol | % | 75 | | | 30-130 | Pass | |
| Dinoseb | % | 97 | | | 30-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 2013 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | % | 83 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **TRH - 1999 NEPM Fractions (after silica gel clean-up)** | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | % | 71 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | | | | |
| Acenaphthene | % | 85 | | | 70-130 | Pass | |
| Acenaphthylene | % | 87 | | | 70-130 | Pass | |
| Anthracene | % | 106 | | | 70-130 | Pass | |
| Benz(a)anthracene | % | 80 | | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 101 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 93 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | % | 86 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 115 | | | 70-130 | Pass | |
| Chrysene | % | 94 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | % | 96 | | | 70-130 | Pass | |
| Fluoranthene | % | 93 | | | 70-130 | Pass | |
| Fluorene | % | 93 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | % | 104 | | | 70-130 | Pass | |
| Naphthalene | % | 89 | | | 70-130 | Pass | |
| Phenanthrene | % | 84 | | | 70-130 | Pass | |
| Pyrene | % | 90 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| Ammonia (as N) | % | 94 | | | 70-130 | Pass | |
| Chloride | % | 104 | | | 70-130 | Pass | |
| Cyanide (total) | % | 100 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | % | 88 | | | 70-130 | Pass | |
| Nitrate (as N) | % | 102 | | | 70-130 | Pass | |
| Sulphate (as SO4) | % | 102 | | | 70-130 | Pass | |
| Total Suspended Solids Dried at 103–105°C | % | 123 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Alkali Metals** | | | | | | | |
| Calcium | % | 95 | | | 70-130 | Pass | |
| Magnesium | % | 100 | | | 70-130 | Pass | |
| Potassium | % | 98 | | | 70-130 | Pass | |
| Sodium | % | 102 | | | 70-130 | Pass | |

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **LCS - % Recovery** | | | | | | | |
| **Heavy Metals** | | | | | | | |
| Arsenic | % | 101 | | | 70-130 | Pass | |
| Arsenic (filtered) | % | 94 | | | 70-130 | Pass | |
| Cadmium | % | 95 | | | 70-130 | Pass | |
| Cadmium (filtered) | % | 92 | | | 70-130 | Pass | |
| Chromium | % | 91 | | | 70-130 | Pass | |
| Chromium (filtered) | % | 92 | | | 70-130 | Pass | |
| Copper | % | 89 | | | 70-130 | Pass | |
| Copper (filtered) | % | 92 | | | 70-130 | Pass | |
| Lead | % | 92 | | | 70-130 | Pass | |
| Lead (filtered) | % | 92 | | | 70-130 | Pass | |
| Manganese (filtered) | % | 91 | | | 70-130 | Pass | |
| Mercury | % | 98 | | | 70-130 | Pass | |
| Mercury (filtered) | % | 89 | | | 70-130 | Pass | |
| Nickel | % | 90 | | | 70-130 | Pass | |
| Nickel (filtered) | % | 91 | | | 70-130 | Pass | |
| Zinc | % | 90 | | | 70-130 | Pass | |
| Zinc (filtered) | % | 87 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| Naphthalene | S20-Ma27033 | NCP | % | 92 | | | 70-130 | Pass | |
| TRH C6-C10 | S20-Ma27033 | NCP | % | 115 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C6-C9 | S20-Ma27033 | NCP | % | 112 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **BTEX** | | | | Result 1 | | | | | |
| Benzene | S20-Ma27033 | NCP | % | 118 | | | 70-130 | Pass | |
| Toluene | S20-Ma27033 | NCP | % | 114 | | | 70-130 | Pass | |
| Ethylbenzene | S20-Ma27033 | NCP | % | 109 | | | 70-130 | Pass | |
| m&p-Xylenes | S20-Ma27033 | NCP | % | 104 | | | 70-130 | Pass | |
| o-Xylene | S20-Ma27033 | NCP | % | 107 | | | 70-130 | Pass | |
| Xylenes - Total* | S20-Ma27033 | NCP | % | 105 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | Result 1 | | | | | |
| Acenaphthene | S20-Ma21231 | NCP | % | 90 | | | 70-130 | Pass | |
| Acenaphthylene | S20-Ma21231 | NCP | % | 93 | | | 70-130 | Pass | |
| Anthracene | S20-Ma21231 | NCP | % | 109 | | | 70-130 | Pass | |
| Benz(a)anthracene | S20-Ma21231 | NCP | % | 93 | | | 70-130 | Pass | |
| Benzo(a)pyrene | S20-Ma21231 | NCP | % | 101 | | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S20-Ma21231 | NCP | % | 98 | | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | S20-Ma21231 | NCP | % | 93 | | | 70-130 | Pass | |
| Benzo(k)fluoranthene | S20-Ma21231 | NCP | % | 105 | | | 70-130 | Pass | |
| Chrysene | S20-Ma21231 | NCP | % | 98 | | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | S20-Ma21231 | NCP | % | 102 | | | 70-130 | Pass | |
| Fluoranthene | S20-Ma21231 | NCP | % | 101 | | | 70-130 | Pass | |
| Fluorene | S20-Ma21231 | NCP | % | 99 | | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | S20-Ma21231 | NCP | % | 103 | | | 70-130 | Pass | |
| Naphthalene | S20-Ma21231 | NCP | % | 90 | | | 70-130 | Pass | |
| Phenanthrene | S20-Ma21231 | NCP | % | 96 | | | 70-130 | Pass | |
| Pyrene | S20-Ma21231 | NCP | % | 99 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Result 1 | | | | | |
| Ammonia (as N) | W20-Ma34671 | NCP | % | 89 | | | 70-130 | Pass | |
| Ferrous Iron - Fe2+ | S20-Ma26630 | CP | % | 105 | | | 70-130 | Pass | |
| Nitrate (as N) | W20-Ma34671 | NCP | % | 96 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | S20-Ma26636 | CP | % | 117 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | | | | | |
| Calcium | S20-Ma26648 | CP | % | 91 | | | 70-130 | Pass | |
| Magnesium | S20-Ma26648 | CP | % | 97 | | | 70-130 | Pass | |
| Potassium | S20-Ma26648 | CP | % | 95 | | | 70-130 | Pass | |
| Sodium | S20-Ma26648 | CP | % | 91 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic | S20-Ma26648 | CP | % | 103 | | | 70-130 | Pass | |
| Cadmium | S20-Ma26648 | CP | % | 97 | | | 70-130 | Pass | |
| Chromium | S20-Ma26648 | CP | % | 91 | | | 70-130 | Pass | |
| Copper | S20-Ma26648 | CP | % | 85 | | | 70-130 | Pass | |
| Lead | S20-Ma26648 | CP | % | 89 | | | 70-130 | Pass | |
| Mercury | S20-Ma26648 | CP | % | 98 | | | 70-130 | Pass | |
| Nickel | S20-Ma26648 | CP | % | 87 | | | 70-130 | Pass | |
| Zinc | S20-Ma26648 | CP | % | 90 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| | | | | Result 1 | | | | | |
| Cyanide (total) | S20-Ma26649 | CP | % | 112 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | | | | | |
| Arsenic (filtered) | S20-Ma26649 | CP | % | 96 | | | 70-130 | Pass | |
| Cadmium (filtered) | S20-Ma26649 | CP | % | 96 | | | 70-130 | Pass | |
| Chromium (filtered) | S20-Ma26649 | CP | % | 97 | | | 70-130 | Pass | |
| Copper (filtered) | S20-Ma26649 | CP | % | 93 | | | 70-130 | Pass | |
| Lead (filtered) | S20-Ma26649 | CP | % | 94 | | | 70-130 | Pass | |
| Manganese (filtered) | S20-Ma26649 | CP | % | 95 | | | 70-130 | Pass | |
| Mercury (filtered) | S20-Ma26649 | CP | % | 86 | | | 70-130 | Pass | |
| Nickel (filtered) | S20-Ma26649 | CP | % | 95 | | | 70-130 | Pass | |
| Zinc (filtered) | S20-Ma26649 | CP | % | 86 | | | 70-130 | Pass | |
| **Test** | **Lab Sample ID** | **QA Source** | **Units** | **Result 1** | | | **Acceptance Limits** | **Pass Limits** | **Qualifying Code** |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| Naphthalene | S20-Ma26630 | CP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| TRH C6-C10 | S20-Ma26630 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | S20-Ma26630 | CP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **BTEX** | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | S20-Ma26630 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Toluene | S20-Ma26630 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Ethylbenzene | S20-Ma26630 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| m&p-Xylenes | S20-Ma26630 | CP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| o-Xylene | S20-Ma26630 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Xylenes - Total* | S20-Ma26630 | CP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (Trace level)** | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Acenaphthylene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Anthracene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benz(a)anthracene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(a)pyrene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Chrysene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluoranthene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Fluorene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Naphthalene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Phenanthrene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| Pyrene | S20-Ma21230 | NCP | mg/L | < 0.00001 | < 0.00001 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | W20-Ma34671 | NCP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Chloride | S20-Ma26630 | CP | mg/L | 150 | 150 | <1 | 30% | Pass | |
| Ferrous Iron - Fe2+ | S20-Ma26630 | CP | mg/L | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Nitrate (as N) | W20-Ma34671 | NCP | mg/L | 0.02 | 0.02 | 6.0 | 30% | Pass | |
| Sulphate (as SO4) | S20-Ma26630 | CP | mg/L | 32 | 31 | 5.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | S20-Ma26630 | CP | mg/L | < 0.001 | 0.001 | 68 | 30% | Fail | Q15 |
| Cadmium (filtered) | S20-Ma26630 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | S20-Ma26630 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | S20-Ma26630 | CP | mg/L | 0.009 | 0.009 | 3.0 | 30% | Pass | |
| Lead (filtered) | S20-Ma26630 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | S20-Ma26630 | CP | mg/L | 0.091 | 0.091 | 1.0 | 30% | Pass | |
| Mercury (filtered) | S20-Ma26630 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | S20-Ma26630 | CP | mg/L | 0.009 | 0.009 | 1.0 | 30% | Pass | |
| Zinc (filtered) | S20-Ma26630 | CP | mg/L | 0.041 | 0.040 | 1.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | S20-Ma26636 | CP | mg/L | < 0.004 | < 0.004 | <1 | 30% | Pass | |
| Total Suspended Solids Dried at 103–105°C | S20-Ma26636 | CP | mg/L | 14 | 13 | 9.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | S20-Ma26638 | CP | mg/L | 180 | 180 | 2.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ferrous Iron - Fe2+ | S20-Ma26639 | CP | mg/L | 1.3 | 1.3 | 1.0 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Alkali Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Calcium | S20-Ma26640 | CP | mg/L | 98 | 91 | 7.0 | 30% | Pass | |
| Magnesium | S20-Ma26640 | CP | mg/L | 56 | 56 | <1 | 30% | Pass | |
| Potassium | S20-Ma26640 | CP | mg/L | 15 | 15 | 3.0 | 30% | Pass | |
| Sodium | S20-Ma26640 | CP | mg/L | 140 | 150 | 3.0 | 30% | Pass | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | S20-Ma26640 | CP | mg/L | 0.002 | 0.002 | 7.0 | 30% | Pass | |
| Arsenic (filtered) | S20-Ma26640 | CP | mg/L | 0.002 | 0.002 | 10 | 30% | Pass | |
| Cadmium | S20-Ma26640 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Cadmium (filtered) | S20-Ma26640 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium | S20-Ma26640 | CP | mg/L | 0.006 | 0.011 | 52 | 30% | Fail | Q15 |
| Chromium (filtered) | S20-Ma26640 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper | S20-Ma26640 | CP | mg/L | 0.005 | 0.005 | <1 | 30% | Pass | |
| Copper (filtered) | S20-Ma26640 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead | S20-Ma26640 | CP | mg/L | 0.005 | 0.005 | 2.0 | 30% | Pass | |
| Lead (filtered) | S20-Ma26640 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Manganese (filtered) | S20-Ma26640 | CP | mg/L | 0.39 | 0.39 | 1.0 | 30% | Pass | |
| Mercury | S20-Ma26640 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Mercury (filtered) | S20-Ma26640 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel | S20-Ma26640 | CP | mg/L | 0.021 | 0.022 | 3.0 | 30% | Pass | |
| Nickel (filtered) | S20-Ma26640 | CP | mg/L | 0.018 | 0.017 | 1.0 | 30% | Pass | |
| Zinc | S20-Ma26640 | CP | mg/L | 0.041 | 0.033 | 22 | 30% | Pass | |
| Zinc (filtered) | S20-Ma26640 | CP | mg/L | 0.015 | 0.015 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Heavy Metals** | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | S20-Ma27176 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Cadmium | S20-Ma27176 | NCP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium | S20-Ma27176 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper | S20-Ma27176 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Lead | S20-Ma27176 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Mercury | S20-Ma27176 | NCP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel | S20-Ma27176 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Zinc | S20-Ma27176 | NCP | mg/L | < 0.005 | < 0.005 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Cyanide (total) | S20-Ma26649 | CP | mg/L | 0.007 | 0.006 | 20 | 30% | Pass | |

## Comments

### Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

### Qualifier Codes/Comments

| Code | Description |
|---|---|
| N01 | F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). |
| N02 | Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid. |
| N04 | F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. |
| Q15 | The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report. |
| R16 | The LORs have been raised due to the high concentration of one or more analytes |
| R20 | This sample is a Trip Spike and therefore all results are reported as a percentage |

## Authorised By

| | |
|---|---|
| Alena Bounkeua | Analytical Services Manager |
| Andrew Sullivan | Senior Analyst-Organic (NSW) |
| Gabriele Cordero | Senior Analyst-Inorganic (NSW) |
| Gabriele Cordero | Senior Analyst-Metal (NSW) |
| Joseph Edouard | Senior Analyst-Organic (VIC) |
| Scott Beddoes | Senior Analyst-Inorganic (VIC) |



**Glenn Jackson**
**General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

ALS Environmental

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1934142** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 17-Oct-2019 14:50 |
| Order number | : ---- | Date Analysis Commenced | : 18-Oct-2019 |
| C-O-C number | : ---- | Issue Date | : 24-Oct-2019 11:47 |
| Sampler | : TERRY NHAM | | |
| Site | : 21-27234 Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Ivan Taylor | Analyst | Sydney Inorganics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 16-Oct-2019 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1934142-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | | | |
| **Arsenic** | 7440-38-2 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Cadmium** | 7440-43-9 | 0.0001 | mg/L | | <0.0001 | ---- | ---- | ---- | ---- |
| **Chromium** | 7440-47-3 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Copper** | 7440-50-8 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Lead** | 7439-92-1 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Nickel** | 7440-02-0 | 0.001 | mg/L | | **0.001** | ---- | ---- | ---- | ---- |
| **Zinc** | 7440-66-6 | 0.005 | mg/L | | <0.005 | ---- | ---- | ---- | ---- |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | | | |
| **Mercury** | 7439-97-6 | 0.0001 | mg/L | | <0.0001 | ---- | ---- | ---- | ---- |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons** | | | | | | | | | |
| **Naphthalene** | 91-20-3 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Acenaphthylene** | 208-96-8 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Acenaphthene** | 83-32-9 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Fluorene** | 86-73-7 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Phenanthrene** | 85-01-8 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Anthracene** | 120-12-7 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Fluoranthene** | 206-44-0 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Pyrene** | 129-00-0 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Benz(a)anthracene** | 56-55-3 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Chrysene** | 218-01-9 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(b+j)fluoranthene** | 205-99-2 205-82-3 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(k)fluoranthene** | 207-08-9 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(a)pyrene** | 50-32-8 | 0.5 | µg/L | | <0.5 | ---- | ---- | ---- | ---- |
| **Indeno(1.2.3.cd)pyrene** | 193-39-5 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Dibenz(a.h)anthracene** | 53-70-3 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(g.h.i)perylene** | 191-24-2 | 1.0 | µg/L | | <1.0 | ---- | ---- | ---- | ---- |
| ^ **Sum of polycyclic aromatic hydrocarbons** | ---- | 0.5 | µg/L | | <0.5 | ---- | ---- | ---- | ---- |
| ^ **Benzo(a)pyrene TEQ (zero)** | ---- | 0.5 | µg/L | | <0.5 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | | | |
| **C6 - C9 Fraction** | ---- | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| **C10 - C14 Fraction** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| **C15 - C28 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **C29 - C36 Fraction** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| ^ **C10 - C36 Fraction (sum)** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 16-Oct-2019 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1934142-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | | | |
| **C6 - C10 Fraction** | C6_C10 | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| ^ **C6 - C10 Fraction minus BTEX (F1)** | C6_C10-BTEX | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| **>C10 - C16 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C16 - C34 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C34 - C40 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C40 Fraction (sum)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C16 Fraction minus Naphthalene (F2)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **EP080: BTEXN** | | | | | | | | | |
| **Benzene** | 71-43-2 | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Toluene** | 108-88-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **Ethylbenzene** | 100-41-4 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **meta- & para-Xylene** | 108-38-3 106-42-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **ortho-Xylene** | 95-47-6 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Total Xylenes** | ---- | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Sum of BTEX** | ---- | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Naphthalene** | 91-20-3 | 5 | µg/L | | <5 | ---- | ---- | ---- | ---- |
| **EP075(SIM)S: Phenolic Compound Surrogates** | | | | | | | | | |
| **Phenol-d6** | 13127-88-3 | 1.0 | % | | **22.5** | ---- | ---- | ---- | ---- |
| **2-Chlorophenol-D4** | 93951-73-6 | 1.0 | % | | **65.4** | ---- | ---- | ---- | ---- |
| **2.4.6-Tribromophenol** | 118-79-6 | 1.0 | % | | **54.4** | ---- | ---- | ---- | ---- |
| **EP075(SIM)T: PAH Surrogates** | | | | | | | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 1.0 | % | | **81.2** | ---- | ---- | ---- | ---- |
| **Anthracene-d10** | 1719-06-8 | 1.0 | % | | **85.4** | ---- | ---- | ---- | ---- |
| **4-Terphenyl-d14** | 1718-51-0 | 1.0 | % | | **80.0** | ---- | ---- | ---- | ---- |
| **EP080S: TPH(V)/BTEX Surrogates** | | | | | | | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 2 | % | | **107** | ---- | ---- | ---- | ---- |
| **Toluene-D8** | 2037-26-5 | 2 | % | | **106** | ---- | ---- | ---- | ---- |
| **4-Bromofluorobenzene** | 460-00-4 | 2 | % | | **119** | ---- | ---- | ---- | ---- |

## Surrogate Control Limits

Sub-Matrix: **WATER**

| Compound | CAS Number | Recovery Limits (%) Low | Recovery Limits (%) High |
|---|---|---|---|
| **EP075(SIM)S: Phenolic Compound Surrogates** | | | |
| **Phenol-d6** | 13127-88-3 | 10 | 44 |
| **2-Chlorophenol-D4** | 93951-73-6 | 14 | 94 |
| **2.4.6-Tribromophenol** | 118-79-6 | 17 | 125 |
| **EP075(SIM)T: PAH Surrogates** | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 20 | 104 |
| **Anthracene-d10** | 1719-06-8 | 27 | 113 |
| **4-Terphenyl-d14** | 1718-51-0 | 32 | 112 |
| **EP080S: TPH(V)/BTEX Surrogates** | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 71 | 137 |
| **Toluene-D8** | 2037-26-5 | 79 | 131 |
| **4-Bromofluorobenzene** | 460-00-4 | 70 | 128 |

# QUALITY CONTROL REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1934142** | Page | : 1 of 6 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 17-Oct-2019 |
| Order number | : ---- | Date Analysis Commenced | : 18-Oct-2019 |
| C-O-C number | : ---- | Issue Date | : 24-Oct-2019 |
| Sampler | : TERRY NHAM | | |
| Site | : 21-27234 Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Ivan Taylor | Analyst | Sydney Inorganics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EG020F: Dissolved Metals by ICP-MS (QC Lot: 2650885)** | | | | | | | | | |
| ES1934168-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | 0.001 | 0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | 0.012 | 0.012 | 0.00 | 0% - 50% |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | 0.028 | 0.028 | 0.00 | No Limit |
| ES1934107-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | 0.009 | 0.008 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | 0.002 | 0.002 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | <0.005 | 0.00 | No Limit |
| **EG035F: Dissolved Mercury by FIMS (QC Lot: 2650884)** | | | | | | | | | |
| ES1934037-004 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| ES1934123-004 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| **EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2654589)** | | | | | | | | | |
| ES1934071-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES1934142-001 | QC01 | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2654589)** | | | | | | | | | |
| ES1934071-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES1934142-001 | QC01 | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080: BTEXN (QC Lot: 2654589)** | | | | | | | | | |

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EP080: BTEXN (QC Lot: 2654589) - continued** | | | | | | | | | |
| ES1934071-001 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |
| ES1934142-001 | QC01 | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |

## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | Spike Recovery (%) | Recovery Limits (%) | |
| Method: Compound | CAS Number | LOR | Unit | Result | Concentration | LCS | Low | High |
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2650885)** | | | | | | | | |
| EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 89.6 | 85.0 | 114 |
| EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | 0.1 mg/L | 90.1 | 84.0 | 110 |
| EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 89.8 | 85.0 | 111 |
| EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 87.9 | 81.0 | 111 |
| EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 87.8 | 83.0 | 111 |
| EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 86.1 | 82.0 | 112 |
| EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.1 mg/L | 89.4 | 81.0 | 117 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2650884)** | | | | | | | | |
| EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | 0.01 mg/L | 91.9 | 83.0 | 105 |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2650743)** | | | | | | | | |
| EP075(SIM): Naphthalene | 91-20-3 | 1 | µg/L | <1.0 | 5 µg/L | 75.0 | 50.0 | 94.0 |
| EP075(SIM): Acenaphthylene | 208-96-8 | 1 | µg/L | <1.0 | 5 µg/L | 78.7 | 63.6 | 114 |
| EP075(SIM): Acenaphthene | 83-32-9 | 1 | µg/L | <1.0 | 5 µg/L | 71.0 | 62.2 | 113 |
| EP075(SIM): Fluorene | 86-73-7 | 1 | µg/L | <1.0 | 5 µg/L | 71.0 | 63.9 | 115 |
| EP075(SIM): Phenanthrene | 85-01-8 | 1 | µg/L | <1.0 | 5 µg/L | 86.7 | 62.6 | 116 |
| EP075(SIM): Anthracene | 120-12-7 | 1 | µg/L | <1.0 | 5 µg/L | 88.5 | 64.3 | 116 |
| EP075(SIM): Fluoranthene | 206-44-0 | 1 | µg/L | <1.0 | 5 µg/L | 90.5 | 63.6 | 118 |
| EP075(SIM): Pyrene | 129-00-0 | 1 | µg/L | <1.0 | 5 µg/L | 93.7 | 63.1 | 118 |
| EP075(SIM): Benz(a)anthracene | 56-55-3 | 1 | µg/L | <1.0 | 5 µg/L | 69.8 | 64.1 | 117 |
| EP075(SIM): Chrysene | 218-01-9 | 1 | µg/L | <1.0 | 5 µg/L | 76.8 | 62.5 | 116 |
| EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 1 | µg/L | <1.0 | 5 µg/L | 76.0 | 61.7 | 119 |
| EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 1 | µg/L | <1.0 | 5 µg/L | 88.2 | 63.0 | 115 |
| EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | µg/L | <0.5 | 5 µg/L | 93.3 | 63.3 | 117 |
| EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 1 | µg/L | <1.0 | 5 µg/L | 81.0 | 59.9 | 118 |
| EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 1 | µg/L | <1.0 | 5 µg/L | 87.9 | 61.2 | 117 |
| EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 1 | µg/L | <1.0 | 5 µg/L | 90.0 | 59.1 | 118 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2650742)** | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 79.0 | 55.8 | 112 |
| EP071: C15 - C28 Fraction | ---- | 100 | µg/L | <100 | 3000 µg/L | 88.6 | 71.6 | 113 |
| EP071: C29 - C36 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 60.0 | 56.0 | 121 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2654589)** | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | 260 µg/L | 76.3 | 75.0 | 127 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2650742)** | | | | | | | | |

Sub-Matrix: **WATER**

| Method: Compound | CAS Number | LOR | Unit | Method Blank (MB) Report: Result | Laboratory Control Spike (LCS) Report: Spike Concentration | Spike Recovery (%): LCS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|---|
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2650742) - continued** | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 100 | µg/L | <100 | 2500 µg/L | 63.8 | 57.9 | 119 |
| EP071: >C16 - C34 Fraction | ---- | 100 | µg/L | <100 | 3500 µg/L | 82.4 | 62.5 | 110 |
| EP071: >C34 - C40 Fraction | ---- | 100 | µg/L | <100 | 1500 µg/L | 84.8 | 61.5 | 121 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2654589)** | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | 310 µg/L | 83.2 | 75.0 | 127 |
| **EP080: BTEXN (QCLot: 2654589)** | | | | | | | | |
| EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | 10 µg/L | 110 | 70.0 | 122 |
| EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | 10 µg/L | 95.9 | 69.0 | 123 |
| EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | 10 µg/L | 95.3 | 70.0 | 120 |
| EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | 10 µg/L | 93.1 | 69.0 | 121 |
| EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | 10 µg/L | 94.7 | 72.0 | 122 |
| EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | 10 µg/L | 93.2 | 70.0 | 120 |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Matrix Spike (MS) Report: Spike Concentration | SpikeRecovery(%): MS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2650885)** | | | | | | | |
| ES1934037-001 | Anonymous | EG020A-F: Arsenic | 7440-38-2 | 1 mg/L | 99.9 | 70.0 | 130 |
| | | EG020A-F: Cadmium | 7440-43-9 | 0.25 mg/L | 102 | 70.0 | 130 |
| | | EG020A-F: Chromium | 7440-47-3 | 1 mg/L | 99.5 | 70.0 | 130 |
| | | EG020A-F: Copper | 7440-50-8 | 1 mg/L | 98.4 | 70.0 | 130 |
| | | EG020A-F: Lead | 7439-92-1 | 1 mg/L | 104 | 70.0 | 130 |
| | | EG020A-F: Nickel | 7440-02-0 | 1 mg/L | 92.4 | 70.0 | 130 |
| | | EG020A-F: Zinc | 7440-66-6 | 1 mg/L | 100 | 70.0 | 130 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2650884)** | | | | | | | |
| ES1934037-001 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.01 mg/L | 86.5 | 70.0 | 130 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2654589)** | | | | | | | |
| ES1934071-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 325 µg/L | 91.2 | 70.0 | 130 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2654589)** | | | | | | | |
| ES1934071-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 375 µg/L | 95.4 | 70.0 | 130 |
| **EP080: BTEXN (QCLot: 2654589)** | | | | | | | |
| ES1934071-001 | Anonymous | EP080: Benzene | 71-43-2 | 25 µg/L | 110 | 70.0 | 130 |

Sub-Matrix: **WATER**

| | | | | Matrix Spike (MS) Report | | | |
|---|---|---|---|---|---|---|---|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *Concentration* | *MS* | *Low* | *High* |
| **EP080: BTEXN (QCLot: 2654589) - continued** | | | | | | | |
| ES1934071-001 | Anonymous | EP080: Toluene | 108-88-3 | 25 µg/L | 97.6 | 70.0 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 25 µg/L | 96.3 | 70.0 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 25 µg/L | 95.2 | 70.0 | 130 |
| | | EP080: ortho-Xylene | 95-47-6 | 25 µg/L | 97.8 | 70.0 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 25 µg/L | 88.4 | 70.0 | 130 |

ALS Environmental

# QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1934142** | Page | : 1 of 4 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 17-Oct-2019 |
| Site | : 21-27234 Central | Issue Date | : 24-Oct-2019 |
| Sampler | : TERRY NHAM | No. of samples received | : 1 |
| Order number | : ---- | No. of samples analysed | : 1 |

**This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.**

Brief method summaries and references are also provided to assist in traceability.

## Summary of Outliers

### Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

### Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

### Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

## Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type / Method | Count QC | Count Regular | Rate (%) Actual | Rate (%) Expected | Quality Control Specification |
|---|---|---|---|---|---|
| **Laboratory Duplicates (DUP)** | | | | | |
| PAH/Phenols (GC/MS - SIM) | 0 | 7 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 10 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| **Matrix Spikes (MS)** | | | | | |
| PAH/Phenols (GC/MS - SIM) | 0 | 7 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 10 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |

## Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

| *Method* / *Container / Client Sample ID(s)* | *Sample Date* | *Extraction / Preparation* Date extracted | Due for extraction | Evaluation | *Analysis* Date analysed | Due for analysis | Evaluation |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | |
| **Clear Plastic Bottle - Natural (EG020A-F)** | | | | | | | |
| QC01 | **16-Oct-2019** | **----** | ---- | ---- | **18-Oct-2019** | 13-Apr-2020 | ✓ |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | |
| **Clear Plastic Bottle - Natural (EG035F)** | | | | | | | |
| QC01 | **16-Oct-2019** | **----** | ---- | ---- | **22-Oct-2019** | 13-Nov-2019 | ✓ |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP075(SIM))** | | | | | | | |
| QC01 | **16-Oct-2019** | **18-Oct-2019** | 23-Oct-2019 | ✓ | **20-Oct-2019** | 27-Nov-2019 | ✓ |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **16-Oct-2019** | **18-Oct-2019** | 23-Oct-2019 | ✓ | **21-Oct-2019** | 27-Nov-2019 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **16-Oct-2019** | **22-Oct-2019** | 30-Oct-2019 | ✓ | **22-Oct-2019** | 30-Oct-2019 | ✓ |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **16-Oct-2019** | **18-Oct-2019** | 23-Oct-2019 | ✓ | **21-Oct-2019** | 27-Nov-2019 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **16-Oct-2019** | **22-Oct-2019** | 30-Oct-2019 | ✓ | **22-Oct-2019** | 30-Oct-2019 | ✓ |
| **EP080: BTEXN** | | | | | | | |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **16-Oct-2019** | **22-Oct-2019** | 30-Oct-2019 | ✓ | **22-Oct-2019** | 30-Oct-2019 | ✓ |

# Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|---|---|---|---|---|---|---|---|
| *Analytical Methods* | *Method* | *QC* | *Regular* | ***Actual*** | ***Expected*** | *Evaluation* | |
| **Laboratory Duplicates (DUP)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 2 | 15 | **13.33** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 2 | 15 | **13.33** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 0 | 7 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 10 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 20 | **10.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| **Laboratory Control Samples (LCS)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 1 | 7 | **14.29** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 10 | **10.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| **Method Blanks (MB)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 1 | 7 | **14.29** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 10 | **10.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| **Matrix Spikes (MS)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 0 | 7 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 10 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |

## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | WATER | In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. |
| Dissolved Mercury by FIMS | EG035F | WATER | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH - Semivolatile Fraction | EP071 | WATER | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | WATER | In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH Volatiles/BTEX | EP080 | WATER | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |

| Preparation Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Separatory Funnel Extraction of Liquids | ORG14 | WATER | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Volatiles Water Preparation | ORG16-W | WATER | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging. |

# CHAIN OF CUSTODY

ALS Laboratory: please tick →


☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com


| | | | |
|---|---|---|---|
| CLIENT: GHD Pty Ltd | TURNAROUND REQUIREMENTS (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) | ☒ Standard TAT (List due date): | FOR LABORATORY USE ONLY (Circle) |
| OFFICE: Sydney | | ☐ Non Standard or urgent TAT (List due date): | Custody Seal Intact? Yes / No / N/A |
| PROJECT: 21-27234 Central | ALS QUOTE NO.: EN/005/18 | COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 | Free ice / frozen ice bricks present upon receipt? Yes / No / N/A |
| ORDER NUMBER: | | OF: 1 2 3 4 5 6 7 | Random Sample Temperature on Receipt: 2 °C |
| PROJECT MANAGER: Henry Luo | CONTACT PH: 02 9239 7044 / 0414 090 002 | | Other comments: |
| SAMPLER: Terry Nham | SAMPLER MOBILE: 0403 251 883 | | |
| COC emailed to ALS? ( YES / NO) | EDD FORMAT (or default): | | |
| Email Reports to: henry.luo@ghd.com terry.nham@ghd.com | | | |
| Email Invoice to (will default to PM if no other addresses are listed): | | | |

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Terry Nham (GHD) | Sep - ALS Crows Nest | | JUSTIN |
| DATE/TIME: 17/10/19 | DATE/TIME: 17/10/19 1450 | DATE/TIME: | DATE/TIME: 17/10/19 7pm. |

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price)
Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

| ALS USE | SAMPLE DETAILS MATRIX: SOLID (S) WATER (W) | | | CONTAINER INFORMATION | | |
|---|---|---|---|---|---|---|
| LAB ID | SAMPLE ID | DATE / TIME | MATRIX | TYPE & PRESERVATIVE (refer to codes below) | TOTAL CONTAINERS | TRH / BTEX / PAH / 8 Metals (Dissolved) (W-26) |
| 1 | QC01 | 16/10/19 | Water | | 9 | X |
| | | | | | | |
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| | | | | | | |
| | | | | TOTAL | | |

Environmental Division
Sydney
Work Order Reference
ES1934142

Telephone : +61-2-8784 8555

***Water Container Codes:*** P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1937682** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 14-Nov-2019 15:05 |
| Order number | : | Date Analysis Commenced | : 16-Nov-2019 |
| C-O-C number | : ---- | Issue Date | : 20-Nov-2019 19:53 |
| Sampler | : Terry Nham | | |
| Site | : 21-27234 Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|
| | | | Client sampling date / time | 13-Nov-2019 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | ES1937682-001 | -------- | -------- | -------- | -------- |
| | | | | Result | ---- | ---- | ---- | ---- |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | | |
| **Arsenic** | 7440-38-2 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Cadmium** | 7440-43-9 | 0.0001 | mg/L | **0.0001** | ---- | ---- | ---- | ---- |
| **Chromium** | 7440-47-3 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Copper** | 7440-50-8 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Lead** | 7439-92-1 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Nickel** | 7440-02-0 | 0.001 | mg/L | **0.010** | ---- | ---- | ---- | ---- |
| **Zinc** | 7440-66-6 | 0.005 | mg/L | <0.005 | ---- | ---- | ---- | ---- |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | | |
| **Mercury** | 7439-97-6 | 0.0001 | mg/L | <0.0001 | ---- | ---- | ---- | ---- |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons** | | | | | | | | |
| **Naphthalene** | 91-20-3 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Acenaphthylene** | 208-96-8 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Acenaphthene** | 83-32-9 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Fluorene** | 86-73-7 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Phenanthrene** | 85-01-8 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Anthracene** | 120-12-7 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Fluoranthene** | 206-44-0 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Pyrene** | 129-00-0 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Benz(a)anthracene** | 56-55-3 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Chrysene** | 218-01-9 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(b+j)fluoranthene** | 205-99-2 205-82-3 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(k)fluoranthene** | 207-08-9 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(a)pyrene** | 50-32-8 | 0.5 | µg/L | <0.5 | ---- | ---- | ---- | ---- |
| **Indeno(1.2.3.cd)pyrene** | 193-39-5 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Dibenz(a.h)anthracene** | 53-70-3 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| **Benzo(g.h.i)perylene** | 191-24-2 | 1.0 | µg/L | <1.0 | ---- | ---- | ---- | ---- |
| ^ **Sum of polycyclic aromatic hydrocarbons** | ---- | 0.5 | µg/L | <0.5 | ---- | ---- | ---- | ---- |
| ^ **Benzo(a)pyrene TEQ (zero)** | ---- | 0.5 | µg/L | <0.5 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | | |
| **C6 - C9 Fraction** | ---- | 20 | µg/L | <20 | ---- | ---- | ---- | ---- |
| **C10 - C14 Fraction** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- |
| **C15 - C28 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- |
| **C29 - C36 Fraction** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- |
| ^ **C10 - C36 Fraction (sum)** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- |

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 13-Nov-2019 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1937682-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | | | |
| **C6 - C10 Fraction** | C6_C10 | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| ^ **C6 - C10 Fraction minus BTEX (F1)** | C6_C10-BTEX | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| **>C10 - C16 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C16 - C34 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C34 - C40 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C40 Fraction (sum)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C16 Fraction minus Naphthalene (F2)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **EP080: BTEXN** | | | | | | | | | |
| **Benzene** | 71-43-2 | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Toluene** | 108-88-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **Ethylbenzene** | 100-41-4 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **meta- & para-Xylene** | 108-38-3 106-42-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **ortho-Xylene** | 95-47-6 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Total Xylenes** | ---- | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Sum of BTEX** | ---- | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Naphthalene** | 91-20-3 | 5 | µg/L | | <5 | ---- | ---- | ---- | ---- |
| **EP075(SIM)S: Phenolic Compound Surrogates** | | | | | | | | | |
| **Phenol-d6** | 13127-88-3 | 1.0 | % | | **18.1** | ---- | ---- | ---- | ---- |
| **2-Chlorophenol-D4** | 93951-73-6 | 1.0 | % | | **51.5** | ---- | ---- | ---- | ---- |
| **2.4.6-Tribromophenol** | 118-79-6 | 1.0 | % | | **46.1** | ---- | ---- | ---- | ---- |
| **EP075(SIM)T: PAH Surrogates** | | | | | | | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 1.0 | % | | **85.1** | ---- | ---- | ---- | ---- |
| **Anthracene-d10** | 1719-06-8 | 1.0 | % | | **84.1** | ---- | ---- | ---- | ---- |
| **4-Terphenyl-d14** | 1718-51-0 | 1.0 | % | | **79.6** | ---- | ---- | ---- | ---- |
| **EP080S: TPH(V)/BTEX Surrogates** | | | | | | | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 2 | % | | **110** | ---- | ---- | ---- | ---- |
| **Toluene-D8** | 2037-26-5 | 2 | % | | **112** | ---- | ---- | ---- | ---- |
| **4-Bromofluorobenzene** | 460-00-4 | 2 | % | | **99.0** | ---- | ---- | ---- | ---- |

## Surrogate Control Limits

Sub-Matrix: **WATER**

| Compound | CAS Number | Recovery Limits (%) Low | Recovery Limits (%) High |
|---|---|---|---|
| **EP075(SIM)S: Phenolic Compound Surrogates** | | | |
| **Phenol-d6** | 13127-88-3 | 10 | 44 |
| **2-Chlorophenol-D4** | 93951-73-6 | 14 | 94 |
| **2.4.6-Tribromophenol** | 118-79-6 | 17 | 125 |
| **EP075(SIM)T: PAH Surrogates** | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 20 | 104 |
| **Anthracene-d10** | 1719-06-8 | 27 | 113 |
| **4-Terphenyl-d14** | 1718-51-0 | 32 | 112 |
| **EP080S: TPH(V)/BTEX Surrogates** | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 71 | 137 |
| **Toluene-D8** | 2037-26-5 | 79 | 131 |
| **4-Bromofluorobenzene** | 460-00-4 | 70 | 128 |

# QUALITY CONTROL REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1937682** | Page | : 1 of 6 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 14-Nov-2019 |
| Order number | : | Date Analysis Commenced | : 16-Nov-2019 |
| C-O-C number | : ---- | Issue Date | : 20-Nov-2019 |
| Sampler | : Terry Nham | | |
| Site | : 21-27234 Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EG020F: Dissolved Metals by ICP-MS (QC Lot: 2711183)** | | | | | | | | | |
| ES1937842-006 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | 0.001 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.001 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | <0.005 | 0.00 | No Limit |
| **EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2704790)** | | | | | | | | | |
| EP1911875-004 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES1937622-005 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2704790)** | | | | | | | | | |
| EP1911875-004 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES1937622-005 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080: BTEXN (QC Lot: 2704790)** | | | | | | | | | |
| EP1911875-004 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |
| ES1937622-005 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |

Sub-Matrix: **WATER**

| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| **EP080: BTEXN (QC Lot: 2704790) - continued** | | | | | | | | | |
| ES1937622-005 | Anonymous | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |

## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | Spike Recovery (%) | Recovery Limits (%) | |
| Method: Compound | CAS Number | LOR | Unit | Result | Concentration | LCS | Low | High |
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2711183)** | | | | | | | | |
| EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 94.0 | 85.0 | 114 |
| EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | 0.1 mg/L | 95.8 | 84.0 | 110 |
| EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 91.7 | 85.0 | 111 |
| EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 92.9 | 81.0 | 111 |
| EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 93.2 | 83.0 | 111 |
| EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 94.4 | 82.0 | 112 |
| EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.1 mg/L | 94.8 | 81.0 | 117 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2711184)** | | | | | | | | |
| EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | 0.01 mg/L | 105 | 83.0 | 105 |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2705850)** | | | | | | | | |
| EP075(SIM): Naphthalene | 91-20-3 | 1 | µg/L | <1.0 | 5 µg/L | 75.0 | 50.0 | 94.0 |
| EP075(SIM): Acenaphthylene | 208-96-8 | 1 | µg/L | <1.0 | 5 µg/L | 70.1 | 63.6 | 114 |
| EP075(SIM): Acenaphthene | 83-32-9 | 1 | µg/L | <1.0 | 5 µg/L | 70.5 | 62.2 | 113 |
| EP075(SIM): Fluorene | 86-73-7 | 1 | µg/L | <1.0 | 5 µg/L | 68.1 | 63.9 | 115 |
| EP075(SIM): Phenanthrene | 85-01-8 | 1 | µg/L | <1.0 | 5 µg/L | 82.4 | 62.6 | 116 |
| EP075(SIM): Anthracene | 120-12-7 | 1 | µg/L | <1.0 | 5 µg/L | 78.2 | 64.3 | 116 |
| EP075(SIM): Fluoranthene | 206-44-0 | 1 | µg/L | <1.0 | 5 µg/L | 91.6 | 63.6 | 118 |
| EP075(SIM): Pyrene | 129-00-0 | 1 | µg/L | <1.0 | 5 µg/L | 102 | 63.1 | 118 |
| EP075(SIM): Benz(a)anthracene | 56-55-3 | 1 | µg/L | <1.0 | 5 µg/L | 85.2 | 64.1 | 117 |
| EP075(SIM): Chrysene | 218-01-9 | 1 | µg/L | <1.0 | 5 µg/L | 93.8 | 62.5 | 116 |
| EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 1 | µg/L | <1.0 | 5 µg/L | 87.4 | 61.7 | 119 |
| EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 1 | µg/L | <1.0 | 5 µg/L | 81.2 | 63.0 | 115 |
| EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | µg/L | <0.5 | 5 µg/L | 90.9 | 63.3 | 117 |
| EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 1 | µg/L | <1.0 | 5 µg/L | 89.9 | 59.9 | 118 |
| EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 1 | µg/L | <1.0 | 5 µg/L | 90.6 | 61.2 | 117 |
| EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 1 | µg/L | <1.0 | 5 µg/L | 94.1 | 59.1 | 118 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2704790)** | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | 260 µg/L | 91.7 | 75.0 | 127 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2705849)** | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 63.9 | 55.8 | 112 |
| EP071: C15 - C28 Fraction | ---- | 100 | µg/L | <100 | 3000 µg/L | 92.3 | 71.6 | 113 |
| EP071: C29 - C36 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 79.1 | 56.0 | 121 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2704790)** | | | | | | | | |

Sub-Matrix: **WATER**

| Method: Compound | CAS Number | LOR | Unit | Method Blank (MB) Report: Result | Laboratory Control Spike (LCS) Report: Spike Concentration | Spike Recovery (%): LCS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|---|
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2704790) - continued** | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | 310 µg/L | 93.8 | 75.0 | 127 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2705849)** | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 100 | µg/L | <100 | 2500 µg/L | 68.1 | 57.9 | 119 |
| EP071: >C16 - C34 Fraction | ---- | 100 | µg/L | <100 | 3500 µg/L | 78.6 | 62.5 | 110 |
| EP071: >C34 - C40 Fraction | ---- | 100 | µg/L | <100 | 1500 µg/L | 75.8 | 61.5 | 121 |
| **EP080: BTEXN (QCLot: 2704790)** | | | | | | | | |
| EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | 10 µg/L | 98.9 | 70.0 | 122 |
| EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | 10 µg/L | 107 | 69.0 | 123 |
| EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | 10 µg/L | 107 | 70.0 | 120 |
| EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | 10 µg/L | 105 | 69.0 | 121 |
| EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | 10 µg/L | 108 | 72.0 | 122 |
| EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | 10 µg/L | 111 | 70.0 | 120 |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Matrix Spike (MS) Report: Spike Concentration | SpikeRecovery(%): MS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2711183)** | | | | | | | |
| ES1937842-003 | Anonymous | EG020A-F: Arsenic | 7440-38-2 | 1 mg/L | 123 | 70.0 | 130 |
| | | EG020A-F: Cadmium | 7440-43-9 | 0.25 mg/L | 127 | 70.0 | 130 |
| | | EG020A-F: Chromium | 7440-47-3 | 1 mg/L | 123 | 70.0 | 130 |
| | | EG020A-F: Copper | 7440-50-8 | 1 mg/L | 125 | 70.0 | 130 |
| | | EG020A-F: Lead | 7439-92-1 | 1 mg/L | 99.8 | 70.0 | 130 |
| | | EG020A-F: Nickel | 7440-02-0 | 1 mg/L | 121 | 70.0 | 130 |
| | | EG020A-F: Zinc | 7440-66-6 | 1 mg/L | 125 | 70.0 | 130 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2711184)** | | | | | | | |
| ES1937682-001 | QC01 | EG035F: Mercury | 7439-97-6 | 0.01 mg/L | 70.3 | 70.0 | 130 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2704790)** | | | | | | | |
| EP1911875-004 | Anonymous | EP080: C6 - C9 Fraction | ---- | 325 µg/L | 110 | 70.0 | 130 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2704790)** | | | | | | | |
| EP1911875-004 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 375 µg/L | 109 | 70.0 | 130 |
| **EP080: BTEXN (QCLot: 2704790)** | | | | | | | |
| EP1911875-004 | Anonymous | EP080: Benzene | 71-43-2 | 25 µg/L | 106 | 70.0 | 130 |

Sub-Matrix: **WATER**

| | | | | Matrix Spike (MS) Report | | | |
|---|---|---|---|---|---|---|---|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *Concentration* | *MS* | *Low* | *High* |
| **EP080: BTEXN (QCLot: 2704790) - continued** | | | | | | | |
| EP1911875-004 | Anonymous | EP080: Toluene | 108-88-3 | 25 µg/L | 105 | 70.0 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 25 µg/L | 106 | 70.0 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 25 µg/L | 105 | 70.0 | 130 |
| | | EP080: ortho-Xylene | 95-47-6 | 25 µg/L | 106 | 70.0 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 25 µg/L | 94.3 | 70.0 | 130 |

# QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1937682** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 14-Nov-2019 |
| Site | : 21-27234 Central | Issue Date | : 20-Nov-2019 |
| Sampler | : Terry Nham | No. of samples received | : 1 |
| Order number | : | No. of samples analysed | : 1 |

**This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.**

Brief method summaries and references are also provided to assist in traceability.

## Summary of Outliers

### Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

### Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

### Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

## Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type | Count | | Rate (%) | | Quality Control Specification |
|---|---|---|---|---|---|
| Method | QC | Regular | Actual | Expected | |
| **Laboratory Duplicates (DUP)** | | | | | |
| Dissolved Mercury by FIMS | 0 | 1 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | 0 | 11 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 19 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| **Matrix Spikes (MS)** | | | | | |
| PAH/Phenols (GC/MS - SIM) | 0 | 11 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 19 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |

## Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

| *Method* | *Sample Date* | *Extraction / Preparation* | | | *Analysis* | | |
|---|---|---|---|---|---|---|---|
| *Container / Client Sample ID(s)* | | *Date extracted* | *Due for extraction* | *Evaluation* | *Date analysed* | *Due for analysis* | *Evaluation* |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)** | | | | | | | |
| QC01 | **13-Nov-2019** | **----** | ---- | ---- | **19-Nov-2019** | 11-May-2020 | ✓ |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)** | | | | | | | |
| QC01 | **13-Nov-2019** | **----** | ---- | ---- | **20-Nov-2019** | 11-Dec-2019 | ✓ |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP075(SIM))** | | | | | | | |
| QC01 | **13-Nov-2019** | **16-Nov-2019** | 20-Nov-2019 | ✓ | **19-Nov-2019** | 26-Dec-2019 | ✓ |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **13-Nov-2019** | **16-Nov-2019** | 20-Nov-2019 | ✓ | **19-Nov-2019** | 26-Dec-2019 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **13-Nov-2019** | **19-Nov-2019** | 27-Nov-2019 | ✓ | **19-Nov-2019** | 27-Nov-2019 | ✓ |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **13-Nov-2019** | **16-Nov-2019** | 20-Nov-2019 | ✓ | **19-Nov-2019** | 26-Dec-2019 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **13-Nov-2019** | **19-Nov-2019** | 27-Nov-2019 | ✓ | **19-Nov-2019** | 27-Nov-2019 | ✓ |

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

| Method / Container / Client Sample ID(s) | Sample Date | Extraction / Preparation | | | Analysis | | |
|---|---|---|---|---|---|---|---|
| | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| **EP080: BTEXN** | | | | | | | |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **13-Nov-2019** | **19-Nov-2019** | 27-Nov-2019 | ✓ | **19-Nov-2019** | 27-Nov-2019 | ✓ |

# Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|---|---|---|---|---|---|---|---|
| *Analytical Methods* | *Method* | *QC* | *Regular* | ***Actual*** | ***Expected*** | *Evaluation* | |
| Laboratory Duplicates (DUP) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 0 | 1 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 7 | **14.29** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 0 | 11 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 19 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 20 | **10.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 1 | **100.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 7 | **14.29** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 19 | **5.26** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 1 | **100.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 7 | **14.29** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 19 | **5.26** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 1 | **100.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 7 | **14.29** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | 0 | 11 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 19 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |

## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | WATER | In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. |
| Dissolved Mercury by FIMS | EG035F | WATER | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH - Semivolatile Fraction | EP071 | WATER | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| PAH/Phenols (GC/MS - SIM) | EP075(SIM) | WATER | In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH Volatiles/BTEX | EP080 | WATER | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |

| Preparation Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Separatory Funnel Extraction of Liquids | ORG14 | WATER | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Volatiles Water Preparation | ORG16-W | WATER | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging. |

# CHAIN OF CUSTODY

ALS Laboratory: please tick →


☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
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☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com


| | | |
|---|---|---|
| **CLIENT:** GHD Pty Ltd | **TURNAROUND REQUIREMENTS** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) | ☒ Standard TAT (List due date): |
| **OFFICE:** Sydney | | ☐ Non Standard or urgent TAT (List due date): |
| **PROJECT:** 21-27234 Central | **ALS QUOTE NO.:** EN/005/18 | **COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7 |
| **ORDER NUMBER:** | | |
| **PROJECT MANAGER:** Henry Luo | **CONTACT PH:** 02 9239 7044 / 0414 090 002 | |
| **SAMPLER:** Terry Nham | **SAMPLER MOBILE:** 0403 251 883 | |
| **COC emailed to ALS?** ( YES / NO) | **EDD FORMAT (or default):** | |
| **Email Reports to:** henry.luo@ghd.com terry.nham@ghd.com | | |
| **Email Invoice to** (will default to PM if no other addresses are listed): | | |

**FOR LABORATORY USE ONLY (Circle)**
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: 4.3 °C
Other comment:

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Terry Nham (GHD) | Sep-ALS Crows Nest | | Crows Nest |
| DATE/TIME: 14/11/19 | DATE/TIME: 14/11/19 1505 | DATE/TIME: | DATE/TIME: 14/11/19 1850 |

**COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:**

**ALS USE** | **SAMPLE DETAILS** MATRIX: SOLID (S) WATER (W) | **CONTAINER INFORMATION** | **ANALYSIS REQUIRED including SUITES** (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

| LAB ID | SAMPLE ID | DATE / TIME | MATRIX | TYPE & PRESERVATIVE (refer to codes below) | TOTAL CONTAINERS | TRH / BTEX / PAH / 8 Metals (Dissolved) (W-26) |
|---|---|---|---|---|---|---|
| 1 | QC01 | 13/11/19 | Water | | 9 | X |
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| | | | | | | |
| | | | | TOTAL | | |

Environmental Division
Sydney
Work Order Reference
ES1937682

Telephone : + 61-2-8784 8555

*Water Container Codes:* P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1941823** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 17-Dec-2019 13:58 |
| Order number | : | Date Analysis Commenced | : 19-Dec-2019 |
| C-O-C number | : ---- | Issue Date | : 27-Dec-2019 09:58 |
| Sampler | : TERRY NHAM | | |
| Site | : 21-27234 Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC02 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 16-Dec-2019 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1941823-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | | | |
| **Arsenic** | 7440-38-2 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Cadmium** | 7440-43-9 | 0.0001 | mg/L | | <0.0001 | ---- | ---- | ---- | ---- |
| **Chromium** | 7440-47-3 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Copper** | 7440-50-8 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Nickel** | 7440-02-0 | 0.001 | mg/L | | **0.006** | ---- | ---- | ---- | ---- |
| **Lead** | 7439-92-1 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Zinc** | 7440-66-6 | 0.005 | mg/L | | **0.037** | ---- | ---- | ---- | ---- |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | | | |
| **Mercury** | 7439-97-6 | 0.0001 | mg/L | | <0.0001 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | | | |
| **C6 - C9 Fraction** | ---- | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| **C10 - C14 Fraction** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| **C15 - C28 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **C29 - C36 Fraction** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| ^ **C10 - C36 Fraction (sum)** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | | | |
| **C6 - C10 Fraction** | C6_C10 | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| ^ **C6 - C10 Fraction minus BTEX (F1)** | C6_C10-BTEX | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| **>C10 - C16 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C16 - C34 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C34 - C40 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C40 Fraction (sum)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C16 Fraction minus Naphthalene (F2)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **EP080: BTEXN** | | | | | | | | | |
| **Benzene** | 71-43-2 | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Toluene** | 108-88-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **Ethylbenzene** | 100-41-4 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **meta- & para-Xylene** | 108-38-3 106-42-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **ortho-Xylene** | 95-47-6 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Total Xylenes** | ---- | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Sum of BTEX** | ---- | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Naphthalene** | 91-20-3 | 5 | µg/L | | <5 | ---- | ---- | ---- | ---- |

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC02 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 16-Dec-2019 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1941823-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | | | |
| 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthene | 83-32-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthylene | 208-96-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Anthracene | 120-12-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Chrysene | 218-01-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Coronene | 191-07-1 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluoranthene | 206-44-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluorene | 86-73-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Naphthalene | 91-20-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Perylene | 198-55-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Phenanthrene | 85-01-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Pyrene | 129-00-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| ^ Sum of PAHs | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| **EP080S: TPH(V)/BTEX Surrogates** | | | | | | | | | |
| 1.2-Dichloroethane-D4 | 17060-07-0 | 2 | % | | **113** | ---- | ---- | ---- | ---- |
| Toluene-D8 | 2037-26-5 | 2 | % | | **101** | ---- | ---- | ---- | ---- |
| 4-Bromofluorobenzene | 460-00-4 | 2 | % | | **96.7** | ---- | ---- | ---- | ---- |
| **EP132T: Base/Neutral Extractable Surrogates** | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.1 | % | | **64.0** | ---- | ---- | ---- | ---- |
| Anthracene-d10 | 1719-06-8 | 0.1 | % | | **87.0** | ---- | ---- | ---- | ---- |
| 4-Terphenyl-d14 | 1718-51-0 | 0.1 | % | | **94.5** | ---- | ---- | ---- | ---- |

## Surrogate Control Limits

| Sub-Matrix: **WATER** | | Recovery Limits (%) | |
|---|---|---|---|
| *Compound* | *CAS Number* | *Low* | *High* |
| **EP080S: TPH(V)/BTEX Surrogates** | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 71 | 137 |
| **Toluene-D8** | 2037-26-5 | 79 | 131 |
| **4-Bromofluorobenzene** | 460-00-4 | 70 | 128 |
| **EP132T: Base/Neutral Extractable Surrogates** | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 43 | 135 |
| **Anthracene-d10** | 1719-06-8 | 48 | 138 |
| **4-Terphenyl-d14** | 1718-51-0 | 48 | 144 |

# QUALITY CONTROL REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1941823** | Page | : 1 of 6 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 17-Dec-2019 |
| Order number | : | Date Analysis Commenced | : 19-Dec-2019 |
| C-O-C number | : ---- | Issue Date | : 27-Dec-2019 |
| Sampler | : TERRY NHAM | | |
| Site | : 21-27234 Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EG020F: Dissolved Metals by ICP-MS (QC Lot: 2777596)** | | | | | | | | | |
| ME1901720-002 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | 0.012 | 0.014 | 9.41 | 0% - 50% |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.001 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.005 | 0.00 | No Limit |
| ES1941917-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | 0.0003 | 0.0003 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | 0.003 | 0.002 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | 0.328 | 0.331 | 0.925 | 0% - 20% |
| **EG035F: Dissolved Mercury by FIMS (QC Lot: 2777597)** | | | | | | | | | |
| ME1901720-002 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| ES1941917-001 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| **EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2776755)** | | | | | | | | | |
| ES1941879-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES1941879-011 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2776755)** | | | | | | | | | |
| ES1941879-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES1941879-011 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080: BTEXN (QC Lot: 2776755)** | | | | | | | | | |

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EP080: BTEXN (QC Lot: 2776755) - continued** | | | | | | | | | |
| ES1941879-001 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |
| ES1941879-011 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |
| **EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2772352)** | | | | | | | | | |
| ES1941797-007 | Anonymous | EP132: Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP132: 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Acenaphthene | 83-32-9 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Acenaphthylene | 208-96-8 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Anthracene | 120-12-7 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Chrysene | 218-01-9 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Coronene | 191-07-1 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Fluoranthene | 206-44-0 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Fluorene | 86-73-7 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Naphthalene | 91-20-3 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Perylene | 198-55-0 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Phenanthrene | 85-01-8 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |
| | | EP132: Pyrene | 129-00-0 | 0.1 | µg/L | <0.1 | <0.1 | 0.00 | No Limit |

## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | Spike Recovery (%) | Recovery Limits (%) | |
| Method: Compound | CAS Number | LOR | Unit | Result | Concentration | LCS | Low | High |
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2777596)** | | | | | | | | |
| EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 96.2 | 85.0 | 114 |
| EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | 0.1 mg/L | 94.6 | 84.0 | 110 |
| EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 94.5 | 85.0 | 111 |
| EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 91.9 | 81.0 | 111 |
| EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 95.8 | 83.0 | 111 |
| EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 94.6 | 82.0 | 112 |
| EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.1 mg/L | 93.4 | 81.0 | 117 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2777597)** | | | | | | | | |
| EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | 0.01 mg/L | 102 | 83.0 | 105 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2772353)** | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 60.5 | 55.8 | 112 |
| EP071: C15 - C28 Fraction | ---- | 100 | µg/L | <100 | 3000 µg/L | 75.8 | 71.6 | 113 |
| EP071: C29 - C36 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 81.5 | 56.0 | 121 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2776755)** | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | 260 µg/L | 94.8 | 75.0 | 127 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2772353)** | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 100 | µg/L | <100 | 2500 µg/L | 65.1 | 57.9 | 119 |
| EP071: >C16 - C34 Fraction | ---- | 100 | µg/L | <100 | 3500 µg/L | 80.0 | 62.5 | 110 |
| EP071: >C34 - C40 Fraction | ---- | 100 | µg/L | <100 | 1500 µg/L | 78.7 | 61.5 | 121 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2776755)** | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | 310 µg/L | 97.6 | 75.0 | 127 |
| **EP080: BTEXN (QCLot: 2776755)** | | | | | | | | |
| EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | 10 µg/L | 94.6 | 70.0 | 122 |
| EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | 10 µg/L | 93.0 | 69.0 | 123 |
| EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | 10 µg/L | 94.1 | 70.0 | 120 |
| EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | 10 µg/L | 92.9 | 69.0 | 121 |
| EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | 10 µg/L | 95.9 | 72.0 | 122 |
| EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | 10 µg/L | 96.6 | 70.0 | 120 |
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2772352)** | | | | | | | | |
| EP132: 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.7 | 60.0 | 120 |
| EP132: 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 59.6 | 59.0 | 123 |
| EP132: 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 66.6 | 36.0 | 144 |

Sub-Matrix: **WATER**

| Method: Compound | CAS Number | LOR | Unit | Method Blank (MB) Report: Result | Laboratory Control Spike (LCS) Report: Spike Concentration | Spike Recovery (%): LCS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|---|
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2772352) - continued** | | | | | | | | |
| EP132: Acenaphthene | 83-32-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 73.6 | 64.0 | 122 |
| EP132: Acenaphthylene | 208-96-8 | 0.1 | µg/L | <0.1 | 2 µg/L | 72.2 | 64.0 | 126 |
| EP132: Anthracene | 120-12-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 82.7 | 65.0 | 127 |
| EP132: Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 84.3 | 64.0 | 130 |
| EP132: Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | <0.05 | 2 µg/L | 84.4 | 64.0 | 126 |
| EP132: Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 81.7 | 62.0 | 126 |
| EP132: Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.4 | 62.0 | 126 |
| EP132: Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.0 | 56.0 | 126 |
| EP132: Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 86.0 | 68.0 | 130 |
| EP132: Chrysene | 218-01-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 85.0 | 66.0 | 130 |
| EP132: Coronene | 191-07-1 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.5 | 35.0 | 133 |
| EP132: Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.5 | 58.0 | 128 |
| EP132: Fluoranthene | 206-44-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 82.7 | 65.0 | 127 |
| EP132: Fluorene | 86-73-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.2 | 64.0 | 124 |
| EP132: Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.5 | 57.0 | 127 |
| EP132: Naphthalene | 91-20-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 58.3 | 54.0 | 128 |
| EP132: Perylene | 198-55-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 84.6 | 66.0 | 130 |
| EP132: Phenanthrene | 85-01-8 | 0.1 | µg/L | <0.1 | 2 µg/L | 81.8 | 65.0 | 129 |
| EP132: Pyrene | 129-00-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 82.4 | 66.0 | 128 |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Matrix Spike (MS) Report: Spike Concentration | SpikeRecovery(%): MS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2777596)** | | | | | | | |
| ES1941917-001 | Anonymous | EG020A-F: Arsenic | 7440-38-2 | 1 mg/L | 126 | 70.0 | 130 |
| | | EG020A-F: Cadmium | 7440-43-9 | 0.25 mg/L | 125 | 70.0 | 130 |
| | | EG020A-F: Chromium | 7440-47-3 | 1 mg/L | 110 | 70.0 | 130 |
| | | EG020A-F: Copper | 7440-50-8 | 1 mg/L | 107 | 70.0 | 130 |
| | | EG020A-F: Lead | 7439-92-1 | 1 mg/L | 109 | 70.0 | 130 |
| | | EG020A-F: Nickel | 7440-02-0 | 1 mg/L | 120 | 70.0 | 130 |
| | | EG020A-F: Zinc | 7440-66-6 | 1 mg/L | 124 | 70.0 | 130 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2777597)** | | | | | | | |
| ES1941823-001 | QC02 | EG035F: Mercury | 7439-97-6 | 0.01 mg/L | 78.0 | 70.0 | 130 |

Sub-Matrix: **WATER**

| | | | | Matrix Spike (MS) Report | | | |
|---|---|---|---|---|---|---|---|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *Concentration* | *MS* | *Low* | *High* |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2776755)** | | | | | | | |
| ES1941879-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 325 µg/L | 92.7 | 70.0 | 130 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2776755)** | | | | | | | |
| ES1941879-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 375 µg/L | 96.2 | 70.0 | 130 |
| **EP080: BTEXN (QCLot: 2776755)** | | | | | | | |
| ES1941879-001 | Anonymous | EP080: Benzene | 71-43-2 | 25 µg/L | 81.7 | 70.0 | 130 |
| | | EP080: Toluene | 108-88-3 | 25 µg/L | 94.8 | 70.0 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 25 µg/L | 103 | 70.0 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 25 µg/L | 102 | 70.0 | 130 |
| | | EP080: ortho-Xylene | 95-47-6 | 25 µg/L | 105 | 70.0 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 25 µg/L | 105 | 70.0 | 130 |
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2772352)** | | | | | | | |
| ES1941797-007 | Anonymous | EP132: 3-Methylcholanthrene | 56-49-5 | 2 µg/L | 84.8 | 59.0 | 115 |
| | | EP132: 2-Methylnaphthalene | 91-57-6 | 2 µg/L | 66.6 | 46.0 | 120 |
| | | EP132: 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 2 µg/L | 80.0 | 21.0 | 135 |
| | | EP132: Acenaphthene | 83-32-9 | 2 µg/L | 77.6 | 62.0 | 114 |
| | | EP132: Acenaphthylene | 208-96-8 | 2 µg/L | 76.7 | 61.0 | 119 |
| | | EP132: Anthracene | 120-12-7 | 2 µg/L | 81.4 | 68.0 | 116 |
| | | EP132: Benz(a)anthracene | 56-55-3 | 2 µg/L | 84.3 | 67.0 | 122 |
| | | EP132: Benzo(a)pyrene | 50-32-8 | 2 µg/L | 84.6 | 72.0 | 114 |
| | | EP132: Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 2 µg/L | 82.4 | 69.0 | 119 |
| | | EP132: Benzo(e)pyrene | 192-97-2 | 2 µg/L | 82.9 | 71.0 | 119 |
| | | EP132: Benzo(g.h.i)perylene | 191-24-2 | 2 µg/L | 83.3 | 49.0 | 133 |
| | | EP132: Benzo(k)fluoranthene | 207-08-9 | 2 µg/L | 85.4 | 71.0 | 124 |
| | | EP132: Chrysene | 218-01-9 | 2 µg/L | 85.2 | 70.0 | 118 |
| | | EP132: Coronene | 191-07-1 | 2 µg/L | 83.5 | 29.0 | 138 |
| | | EP132: Dibenz(a.h)anthracene | 53-70-3 | 2 µg/L | 83.6 | 60.0 | 122 |
| | | EP132: Fluoranthene | 206-44-0 | 2 µg/L | 82.7 | 65.0 | 121 |
| | | EP132: Fluorene | 86-73-7 | 2 µg/L | 78.2 | 63.0 | 118 |
| | | EP132: Indeno(1.2.3.cd)pyrene | 193-39-5 | 2 µg/L | 83.5 | 57.0 | 123 |
| | | EP132: Naphthalene | 91-20-3 | 2 µg/L | 69.4 | 53.0 | 115 |
| | | EP132: Perylene | 198-55-0 | 2 µg/L | 84.8 | 71.0 | 118 |
| | | EP132: Phenanthrene | 85-01-8 | 2 µg/L | 81.2 | 67.0 | 120 |
| | | EP132: Pyrene | 129-00-0 | 2 µg/L | 83.0 | 70.0 | 117 |

# QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|---|---|---|---|
| **Work Order** | : **ES1941823** | Page | : 1 of 4 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 17-Dec-2019 |
| Site | : 21-27234 Central | Issue Date | : 27-Dec-2019 |
| Sampler | : TERRY NHAM | No. of samples received | : 1 |
| Order number | : | No. of samples analysed | : 1 |

**This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.**

Brief method summaries and references are also provided to assist in traceability.

## Summary of Outliers

### Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

### Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

### Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

## Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type / Method | Count QC | Count Regular | Rate (%) Actual | Rate (%) Expected | Quality Control Specification |
|---|---|---|---|---|---|
| **Laboratory Duplicates (DUP)** | | | | | |
| TRH - Semivolatile Fraction | 0 | 4 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| **Matrix Spikes (MS)** | | | | | |
| TRH - Semivolatile Fraction | 0 | 4 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |

# Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

| Method / Container / Client Sample ID(s) | Sample Date | Extraction / Preparation: Date extracted | Extraction / Preparation: Due for extraction | Extraction / Preparation: Evaluation | Analysis: Date analysed | Analysis: Due for analysis | Analysis: Evaluation |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)** | | | | | | | |
| QC02 | **16-Dec-2019** | **----** | ---- | ---- | **20-Dec-2019** | 13-Jun-2020 | ✓ |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)** | | | | | | | |
| QC02 | **16-Dec-2019** | **----** | ---- | ---- | **21-Dec-2019** | 13-Jan-2020 | ✓ |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC02 | **16-Dec-2019** | **19-Dec-2019** | 23-Dec-2019 | ✓ | **20-Dec-2019** | 28-Jan-2020 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC02 | **16-Dec-2019** | **21-Dec-2019** | 30-Dec-2019 | ✓ | **21-Dec-2019** | 30-Dec-2019 | ✓ |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC02 | **16-Dec-2019** | **19-Dec-2019** | 23-Dec-2019 | ✓ | **20-Dec-2019** | 28-Jan-2020 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC02 | **16-Dec-2019** | **21-Dec-2019** | 30-Dec-2019 | ✓ | **21-Dec-2019** | 30-Dec-2019 | ✓ |
| **EP080: BTEXN** | | | | | | | |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC02 | **16-Dec-2019** | **21-Dec-2019** | 30-Dec-2019 | ✓ | **21-Dec-2019** | 30-Dec-2019 | ✓ |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP132)** | | | | | | | |
| QC02 | **16-Dec-2019** | **19-Dec-2019** | 23-Dec-2019 | ✓ | **20-Dec-2019** | 28-Jan-2020 | ✓ |

# Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|---|---|---|---|---|---|---|---|
| *Analytical Methods* | *Method* | *QC* | *Regular* | ***Actual*** | ***Expected*** | *Evaluation* | |
| Laboratory Duplicates (DUP) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 2 | 11 | **18.18** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 2 | 11 | **18.18** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 2 | **50.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 4 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 20 | **10.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 2 | **50.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 4 | **25.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 2 | **50.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 4 | **25.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 11 | **9.09** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 2 | **50.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 4 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |

## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | WATER | In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. |
| Dissolved Mercury by FIMS | EG035F | WATER | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH - Semivolatile Fraction | EP071 | WATER | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| TRH Volatiles/BTEX | EP080 | WATER | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | WATER | In house: Referenced to USEPA 3640 (GPC Cleanup), 8270D GCMS Capiliary column, SIM mode. This method is compliant with NEPM (2013) Schedule B(3) |

| Preparation Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Separatory Funnel Extraction of Liquids | ORG14 | WATER | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Sep. Funnel Extraction /Acetylation of Phenolic Compounds | ORG14-AC | WATER | In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Volatiles Water Preparation | ORG16-W | WATER | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging. |

# CHAIN OF CUSTODY

ALS Laboratory: please tick →


☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 F: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 F: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 F: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 F: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 F: portkembla@alsglobal.com


| | | |
|---|---|---|
| **CLIENT:** GHD Pty Ltd | **TURNAROUND REQUIREMENTS:** ☑ Standard TAT (List due date): | **FOR LABORATORY USE ONLY (Circle)** |
| **OFFICE:** Sydney | (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date): | Security Seal Intact? Yes / No / N/A |
| **PROJECT:** 21-27234 Central | **ALS QUOTE NO.:** EN/005/18 | Free ice / frozen ice packs present upon receipt? Yes / No / N/A |
| **ORDER NUMBER:** | **COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7 | Random Sample Temperature on Receipt: 3.5°C |
| **PROJECT MANAGER:** Henry Luo | **CONTACT PH:** 02 9239 7044 / 0414 090 002 | OF: 1 2 3 4 5 6 7 |
| **SAMPLER:** Terry Nham | **SAMPLER MOBILE:** 0403 251 883 | Other comments: |
| **COC emailed to ALS?** ( YES / NO) | **EDD FORMAT (or default):** | |
| **Email Reports to:** henry.luo@ghd.com terry.nham@ghd.com | | |
| **Email Invoice to** (will default to PM if no other addresses are listed): | | |

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Terry Nham (GHD) | Sep-ALS Crows Nest | | Sep-ALS |
| DATE/TIME: 17/12/19 | DATE/TIME: 17/12/19 1358 | DATE/TIME: | DATE/TIME: 17/12/19 1515 |

**COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:**

**ALS USE ONLY** | **SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)** | **CONTAINER INFORMATION** | **ANALYSIS REQUIRED including SUITES** (NB. Suite Codes must be listed to attract suite price). Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

| LAB ID | SAMPLE ID | DATE / TIME | MATRIX | TYPE & PRESERVATIVE (refer to codes below) | TOTAL CONTAINERS | TRH / BTEX / PAH / 8 Metals (Dissolved) (W-26) Trace PAHs |
|---|---|---|---|---|---|---|
| 1 | ~~QC01~~ QC02 | 16/12/19 | Water | | 9 | X |
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| | | | | | | |
| | | | | TOTAL | | |

Environmental Division
Sydney
Work Order Reference
ES1941823

Telephone : + 61-2-8784 8555

***Water Container Codes:*** P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2001825** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 21-Jan-2020 15:00 |
| Order number | : | Date Analysis Commenced | : 20-Jan-2020 |
| C-O-C number | : ---- | Issue Date | : 29-Jan-2020 09:56 |
| Sampler | : TERRY NHAM | | |
| Site | : Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Sanjeshni Jyoti | Senior Chemist Volatiles | Sydney Organics, Smithfield, NSW |
| Wisam Marassa | Inorganics Coordinator | Sydney Inorganics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 20-Jan-2020 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES2001825-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | | | |
| **Arsenic** | 7440-38-2 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Cadmium** | 7440-43-9 | 0.0001 | mg/L | | <0.0001 | ---- | ---- | ---- | ---- |
| **Chromium** | 7440-47-3 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Copper** | 7440-50-8 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Nickel** | 7440-02-0 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Lead** | 7439-92-1 | 0.001 | mg/L | | <0.001 | ---- | ---- | ---- | ---- |
| **Zinc** | 7440-66-6 | 0.005 | mg/L | | <0.005 | ---- | ---- | ---- | ---- |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | | | |
| **Mercury** | 7439-97-6 | 0.0001 | mg/L | | <0.0001 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | | | |
| **C6 - C9 Fraction** | ---- | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| **C10 - C14 Fraction** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| **C15 - C28 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **C29 - C36 Fraction** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| ^ **C10 - C36 Fraction (sum)** | ---- | 50 | µg/L | | <50 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | | | |
| **C6 - C10 Fraction** | C6_C10 | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| ^ **C6 - C10 Fraction minus BTEX (F1)** | C6_C10-BTEX | 20 | µg/L | | <20 | ---- | ---- | ---- | ---- |
| **>C10 - C16 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C16 - C34 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **>C34 - C40 Fraction** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C40 Fraction (sum)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C16 Fraction minus Naphthalene (F2)** | ---- | 100 | µg/L | | <100 | ---- | ---- | ---- | ---- |
| **EP080: BTEXN** | | | | | | | | | |
| **Benzene** | 71-43-2 | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Toluene** | 108-88-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **Ethylbenzene** | 100-41-4 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **meta- & para-Xylene** | 108-38-3 106-42-3 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| **ortho-Xylene** | 95-47-6 | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Total Xylenes** | ---- | 2 | µg/L | | <2 | ---- | ---- | ---- | ---- |
| ^ **Sum of BTEX** | ---- | 1 | µg/L | | <1 | ---- | ---- | ---- | ---- |
| **Naphthalene** | 91-20-3 | 5 | µg/L | | <5 | ---- | ---- | ---- | ---- |

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 20-Jan-2020 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES2001825-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | | | |
| 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthene | 83-32-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthylene | 208-96-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Anthracene | 120-12-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Chrysene | 218-01-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Coronene | 191-07-1 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluoranthene | 206-44-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluorene | 86-73-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Naphthalene | 91-20-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Perylene | 198-55-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Phenanthrene | 85-01-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Pyrene | 129-00-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| ^ Sum of PAHs | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| **EP080S: TPH(V)/BTEX Surrogates** | | | | | | | | | |
| 1.2-Dichloroethane-D4 | 17060-07-0 | 2 | % | | **97.8** | ---- | ---- | ---- | ---- |
| Toluene-D8 | 2037-26-5 | 2 | % | | **105** | ---- | ---- | ---- | ---- |
| 4-Bromofluorobenzene | 460-00-4 | 2 | % | | **97.6** | ---- | ---- | ---- | ---- |
| **EP132T: Base/Neutral Extractable Surrogates** | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.1 | % | | **58.1** | ---- | ---- | ---- | ---- |
| Anthracene-d10 | 1719-06-8 | 0.1 | % | | **77.5** | ---- | ---- | ---- | ---- |
| 4-Terphenyl-d14 | 1718-51-0 | 0.1 | % | | **81.2** | ---- | ---- | ---- | ---- |

## Surrogate Control Limits

Sub-Matrix: **WATER**

| Compound | CAS Number | Recovery Limits (%) Low | High |
|---|---|---|---|
| **EP080S: TPH(V)/BTEX Surrogates** | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 71 | 137 |
| **Toluene-D8** | 2037-26-5 | 79 | 131 |
| **4-Bromofluorobenzene** | 460-00-4 | 70 | 128 |
| **EP132T: Base/Neutral Extractable Surrogates** | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 43 | 135 |
| **Anthracene-d10** | 1719-06-8 | 48 | 138 |
| **4-Terphenyl-d14** | 1718-51-0 | 48 | 144 |

# QUALITY CONTROL REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2001825** | Page | : 1 of 6 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Customer Services ES |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 21-Jan-2020 |
| Order number | : | Date Analysis Commenced | : 20-Jan-2020 |
| C-O-C number | : ---- | Issue Date | : 29-Jan-2020 |
| Sampler | : TERRY NHAM | | |
| Site | : Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Sanjeshni Jyoti | Senior Chemist Volatiles | Sydney Organics, Smithfield, NSW |
| Wisam Marassa | Inorganics Coordinator | Sydney Inorganics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EG020F: Dissolved Metals by ICP-MS (QC Lot: 2827773)** | | | | | | | | | |
| ES2002170-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | 0.006 | 0.006 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | 0.002 | 0.002 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | 0.018 | 0.015 | 14.0 | No Limit |
| EW2000295-004 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | 0.002 | 0.002 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | 0.007 | 0.008 | 15.4 | No Limit |
| **EG035F: Dissolved Mercury by FIMS (QC Lot: 2827774)** | | | | | | | | | |
| ES2002337-001 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| ES2001830-001 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.1 µg/L | <0.0001 | 0.00 | No Limit |
| **EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2825098)** | | | | | | | | | |
| ES2001818-021 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES2002096-005 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | 250 | 250 | 0.00 | 0% - 50% |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2825098)** | | | | | | | | | |
| ES2001818-021 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES2002096-005 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | 140 | 140 | 0.00 | No Limit |
| **EP080: BTEXN (QC Lot: 2825098)** | | | | | | | | | |

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EP080: BTEXN (QC Lot: 2825098) - continued** | | | | | | | | | |
| ES2001818-021 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |
| ES2002096-005 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | 10 | 10 | 0.00 | 0% - 50% |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | 2 | 3 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |

## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | Spike Recovery (%) | Recovery Limits (%) | |
| Method: Compound | CAS Number | LOR | Unit | Result | Concentration | LCS | Low | High |
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2827773)** | | | | | | | | |
| EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 102 | 85.0 | 114 |
| EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | 0.1 mg/L | 98.8 | 84.0 | 110 |
| EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 94.0 | 85.0 | 111 |
| EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 96.2 | 81.0 | 111 |
| EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 95.8 | 83.0 | 111 |
| EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 94.7 | 82.0 | 112 |
| EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.1 mg/L | 108 | 81.0 | 117 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2827774)** | | | | | | | | |
| EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | 0.01 mg/L | 93.9 | 83.0 | 105 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2824206)** | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 68.0 | 55.8 | 112 |
| EP071: C15 - C28 Fraction | ---- | 100 | µg/L | <100 | 3000 µg/L | 76.9 | 71.6 | 113 |
| EP071: C29 - C36 Fraction | ---- | 50 | µg/L | <50 | 2000 µg/L | 87.2 | 56.0 | 121 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2825098)** | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | 260 µg/L | 76.6 | 75.0 | 127 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2824206)** | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 100 | µg/L | <100 | 2500 µg/L | 61.0 | 57.9 | 119 |
| EP071: >C16 - C34 Fraction | ---- | 100 | µg/L | <100 | 3500 µg/L | 83.7 | 62.5 | 110 |
| EP071: >C34 - C40 Fraction | ---- | 100 | µg/L | <100 | 1500 µg/L | 78.9 | 61.5 | 121 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2825098)** | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | 310 µg/L | 80.0 | 75.0 | 127 |
| **EP080: BTEXN (QCLot: 2825098)** | | | | | | | | |
| EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | 10 µg/L | 96.6 | 70.0 | 122 |
| EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | 10 µg/L | 98.7 | 69.0 | 123 |
| EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | 10 µg/L | 100 | 70.0 | 120 |
| EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | 10 µg/L | 99.4 | 69.0 | 121 |
| EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | 10 µg/L | 100 | 72.0 | 122 |
| EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | 10 µg/L | 105 | 70.0 | 120 |
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2823506)** | | | | | | | | |
| EP132: 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 90.7 | 60.0 | 120 |
| EP132: 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 67.4 | 59.0 | 123 |
| EP132: 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 80.0 | 36.0 | 144 |

Sub-Matrix: **WATER**

| Method: Compound | CAS Number | LOR | Unit | Method Blank (MB) Report: Result | Laboratory Control Spike (LCS) Report: Spike Concentration | Spike Recovery (%): LCS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|---|
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2823506) - continued** | | | | | | | | |
| EP132: Acenaphthene | 83-32-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 74.1 | 64.0 | 122 |
| EP132: Acenaphthylene | 208-96-8 | 0.1 | µg/L | <0.1 | 2 µg/L | 78.1 | 64.0 | 126 |
| EP132: Anthracene | 120-12-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 76.5 | 65.0 | 127 |
| EP132: Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 87.8 | 64.0 | 130 |
| EP132: Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | <0.05 | 2 µg/L | 82.4 | 64.0 | 126 |
| EP132: Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.7 | 62.0 | 126 |
| EP132: Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.4 | 62.0 | 126 |
| EP132: Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 89.1 | 56.0 | 126 |
| EP132: Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 85.3 | 68.0 | 130 |
| EP132: Chrysene | 218-01-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 82.2 | 66.0 | 130 |
| EP132: Coronene | 191-07-1 | 0.1 | µg/L | <0.1 | 2 µg/L | 91.7 | 35.0 | 133 |
| EP132: Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 89.9 | 58.0 | 128 |
| EP132: Fluoranthene | 206-44-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.3 | 65.0 | 127 |
| EP132: Fluorene | 86-73-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.4 | 64.0 | 124 |
| EP132: Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 91.3 | 57.0 | 127 |
| EP132: Naphthalene | 91-20-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 63.0 | 54.0 | 128 |
| EP132: Perylene | 198-55-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 82.6 | 66.0 | 130 |
| EP132: Phenanthrene | 85-01-8 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.6 | 65.0 | 129 |
| EP132: Pyrene | 129-00-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 81.4 | 66.0 | 128 |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Matrix Spike (MS) Report: Spike Concentration | SpikeRecovery(%): MS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2827773)** | | | | | | | |
| ES2001830-001 | Anonymous | EG020A-F: Arsenic | 7440-38-2 | 2 mg/L | 116 | 70.0 | 130 |
| | | EG020A-F: Cadmium | 7440-43-9 | 0.5 mg/L | 96.4 | 70.0 | 130 |
| | | EG020A-F: Chromium | 7440-47-3 | 2 mg/L | 94.4 | 70.0 | 130 |
| | | EG020A-F: Copper | 7440-50-8 | 2 mg/L | 102 | 70.0 | 130 |
| | | EG020A-F: Lead | 7439-92-1 | 2 mg/L | 91.9 | 70.0 | 130 |
| | | EG020A-F: Nickel | 7440-02-0 | 2 mg/L | 103 | 70.0 | 130 |
| | | EG020A-F: Zinc | 7440-66-6 | 2 mg/L | 99.9 | 70.0 | 130 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2827774)** | | | | | | | |
| ES2001825-001 | QC01 | EG035F: Mercury | 7439-97-6 | 0.01 mg/L | 92.0 | 70.0 | 130 |

Sub-Matrix: **WATER**

| | | | | Matrix Spike (MS) Report | | | |
|---|---|---|---|---|---|---|---|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *Concentration* | *MS* | *Low* | *High* |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2825098)** | | | | | | | |
| ES2001818-021 | Anonymous | EP080: C6 - C9 Fraction | ---- | 325 µg/L | 96.1 | 70.0 | 130 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2825098)** | | | | | | | |
| ES2001818-021 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 375 µg/L | 95.4 | 70.0 | 130 |
| **EP080: BTEXN (QCLot: 2825098)** | | | | | | | |
| ES2001818-021 | Anonymous | EP080: Benzene | 71-43-2 | 25 µg/L | 104 | 70.0 | 130 |
| | | EP080: Toluene | 108-88-3 | 25 µg/L | 102 | 70.0 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 25 µg/L | 105 | 70.0 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 25 µg/L | 104 | 70.0 | 130 |
| | | EP080: ortho-Xylene | 95-47-6 | 25 µg/L | 103 | 70.0 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 25 µg/L | 97.3 | 70.0 | 130 |

ALS Environmental

# QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2001825** | Page | : 1 of 4 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Telephone | : +61-2-8784 8555 |
| Project | : 2127234 | Date Samples Received | : 21-Jan-2020 |
| Site | : Central | Issue Date | : 29-Jan-2020 |
| Sampler | : TERRY NHAM | No. of samples received | : 1 |
| Order number | : | No. of samples analysed | : 1 |

**This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.**

Brief method summaries and references are also provided to assist in traceability.

## *Summary of Outliers*

### *Outliers : Quality Control Samples*

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

### *Outliers : Analysis Holding Time Compliance*

- **NO Analysis Holding Time Outliers exist.**

### *Outliers : Frequency of Quality Control Samples*

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

## Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type / Method | Count QC | Count Regular | Rate (%) Actual | Rate (%) Expected | Quality Control Specification |
|---|---|---|---|---|---|
| **Laboratory Duplicates (DUP)** | | | | | |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | 0 | 15 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 17 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| **Matrix Spikes (MS)** | | | | | |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | 0 | 15 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 17 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |

## Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

| Method / Container / Client Sample ID(s) | Sample Date | Extraction / Preparation: Date extracted | Extraction / Preparation: Due for extraction | Extraction / Preparation: Evaluation | Analysis: Date analysed | Analysis: Due for analysis | Analysis: Evaluation |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)** | | | | | | | |
| QC01 | **20-Jan-2020** | **----** | ---- | ---- | **25-Jan-2020** | 18-Jul-2020 | ✓ |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)** | | | | | | | |
| QC01 | **20-Jan-2020** | **----** | ---- | ---- | **28-Jan-2020** | 17-Feb-2020 | ✓ |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **20-Jan-2020** | **23-Jan-2020** | 27-Jan-2020 | ✓ | **24-Jan-2020** | 03-Mar-2020 | ✓ |
| **Clear glass VOC vial - HCl (EP080)** | | | | | | | |
| QC01 | **20-Jan-2020** | **24-Jan-2020** | 03-Feb-2020 | ✓ | **24-Jan-2020** | 03-Feb-2020 | ✓ |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **20-Jan-2020** | **23-Jan-2020** | 27-Jan-2020 | ✓ | **24-Jan-2020** | 03-Mar-2020 | ✓ |
| **Clear glass VOC vial - HCl (EP080)** | | | | | | | |
| QC01 | **20-Jan-2020** | **24-Jan-2020** | 03-Feb-2020 | ✓ | **24-Jan-2020** | 03-Feb-2020 | ✓ |
| **EP080: BTEXN** | | | | | | | |
| **Clear glass VOC vial - HCl (EP080)** | | | | | | | |
| QC01 | **20-Jan-2020** | **24-Jan-2020** | 03-Feb-2020 | ✓ | **24-Jan-2020** | 03-Feb-2020 | ✓ |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP132)** | | | | | | | |
| QC01 | **20-Jan-2020** | **20-Jan-2020** | 27-Jan-2020 | ✓ | **28-Jan-2020** | 29-Feb-2020 | ✓ |

# Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|---|---|---|---|---|---|---|---|
| *Analytical Methods* | *Method* | *QC* | *Regular* | ***Actual*** | ***Expected*** | *Evaluation* | |
| Laboratory Duplicates (DUP) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 2 | 14 | **14.29** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 2 | 19 | **10.53** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 0 | 15 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 17 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 20 | **10.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 14 | **7.14** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 19 | **5.26** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 17 | **5.88** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 14 | **7.14** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 19 | **5.26** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 15 | **6.67** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 17 | **5.88** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 14 | **7.14** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 19 | **5.26** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 0 | 15 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 17 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |

## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | WATER | In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. |
| Dissolved Mercury by FIMS | EG035F | WATER | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH - Semivolatile Fraction | EP071 | WATER | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| TRH Volatiles/BTEX | EP080 | WATER | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | WATER | In house: Referenced to USEPA 3640 (GPC Cleanup), 8270D GCMS Capiliary column, SIM mode. This method is compliant with NEPM (2013) Schedule B(3) |

| Preparation Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Separatory Funnel Extraction of Liquids | ORG14 | WATER | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Sep. Funnel Extraction /Acetylation of Phenolic Compounds | ORG14-AC | WATER | In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Volatiles Water Preparation | ORG16-W | WATER | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging. |

# CHAIN OF CUSTODY

ALS Laboratory: please tick →


ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 4971 9900 E: gladstone@alsglobal.com

MACKAY 78 Padlum Road Mackay QLD 4740 Ph: 0... 4944 0177 E: mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

TAMWORTH 4/7 Fleavy Place North Tamworth NSW 2340 Ph: 02 6799 6900 E: tamworth@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7500 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com


| | | | |
|---|---|---|---|
| **CLIENT:** GHD Pty Ltd | **TURNAROUND REQUIREMENTS** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) | ☒ Standard TAT (List due date): | **FOR LABORATORY USE ONLY (Circle)** |
| **OFFICE:** Sydney | | ☐ Non Standard or urgent TAT (List due date): | Custody Seal Intact? Yes / No / N/A |
| **PROJECT:** 21-27234 Central | **ALS QUOTE NO.:** EN/005/18 | **COC SEQUENCE NUMBER (Circle)** | Free ice / Cooling Initiated upon receipt? Yes / No / N/A |
| **ORDER NUMBER:** | | COC: 1 2 3 4 5 6 7 | Random Sample Temperature on Receipt: 5.2 °C |
| **PROJECT MANAGER:** Henry Luo | **CONTACT PH:** 02 9239 7044 / 0414 090 002 | OF: 1 2 3 4 5 6 7 | Other Comment: |
| **SAMPLER:** Terry Nham | **SAMPLER MOBILE:** 0403 261 883 | | |
| **COC emailed to ALS?** ( YES / NO) | **EDD FORMAT (or default):** | | |
| **Email Reports to:** henry.luo@ghd.com terry.nham@ghd.com | | | |
| **Email Invoice to** (will default to PM if no other addresses are listed): | | | |

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Terry Nham (GHD) | Sep - ALS Crows Nest | | JUSTIN |
| DATE/TIME: 21/1/2020 | DATE/TIME: 21/01/2020 1500 | DATE/TIME: | DATE/TIME: 21/1/20 6-30pm |

**COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:**

| ALS USE | SAMPLE DETAILS MATRIX: SOLID (S) WATER (W) | | | CONTAINER INFORMATION | | ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required). | | |

ALS Environmental

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2006512** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Lauren Ockwell |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : 08 9406 1308 |
| Project | : 21-27234 Central | Date Samples Received | : 25-Feb-2020 19:00 |
| Order number | : ---- | Date Analysis Commenced | : 26-Feb-2020 |
| C-O-C number | : ---- | Issue Date | : 03-Mar-2020 18:59 |
| Sampler | : Terry Nham | | |
| Site | : | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Ivan Taylor | Analyst | Sydney Inorganics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|
| | | | Client sampling date / time | 24-Feb-2020 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | ES2006512-001 | -------- | -------- | -------- | -------- |
| | | | | Result | ---- | ---- | ---- | ---- |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | | |
| **Arsenic** | 7440-38-2 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Cadmium** | 7440-43-9 | 0.0001 | mg/L | <0.0001 | ---- | ---- | ---- | ---- |
| **Chromium** | 7440-47-3 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Copper** | 7440-50-8 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Nickel** | 7440-02-0 | 0.001 | mg/L | **0.003** | ---- | ---- | ---- | ---- |
| **Lead** | 7439-92-1 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- |
| **Zinc** | 7440-66-6 | 0.005 | mg/L | **0.011** | ---- | ---- | ---- | ---- |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | | |
| **Mercury** | 7439-97-6 | 0.0001 | mg/L | <0.0001 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | | |
| **C6 - C9 Fraction** | ---- | 20 | µg/L | <20 | ---- | ---- | ---- | ---- |
| **C10 - C14 Fraction** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- |
| **C15 - C28 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- |
| **C29 - C36 Fraction** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- |
| ^ **C10 - C36 Fraction (sum)** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | | |
| **C6 - C10 Fraction** | C6_C10 | 20 | µg/L | <20 | ---- | ---- | ---- | ---- |
| ^ **C6 - C10 Fraction minus BTEX (F1)** | C6_C10-BTEX | 20 | µg/L | <20 | ---- | ---- | ---- | ---- |
| **>C10 - C16 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- |
| **>C16 - C34 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- |
| **>C34 - C40 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C40 Fraction (sum)** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- |
| ^ **>C10 - C16 Fraction minus Naphthalene (F2)** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- |
| **EP080: BTEXN** | | | | | | | | |
| **Benzene** | 71-43-2 | 1 | µg/L | <1 | ---- | ---- | ---- | ---- |
| **Toluene** | 108-88-3 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| **Ethylbenzene** | 100-41-4 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| **meta- & para-Xylene** | 108-38-3 106-42-3 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| **ortho-Xylene** | 95-47-6 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| ^ **Total Xylenes** | ---- | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| ^ **Sum of BTEX** | ---- | 1 | µg/L | <1 | ---- | ---- | ---- | ---- |
| **Naphthalene** | 91-20-3 | 5 | µg/L | <5 | ---- | ---- | ---- | ---- |

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 24-Feb-2020 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES2006512-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | | | |
| 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthene | 83-32-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthylene | 208-96-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Anthracene | 120-12-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Chrysene | 218-01-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Coronene | 191-07-1 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluoranthene | 206-44-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluorene | 86-73-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Naphthalene | 91-20-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Perylene | 198-55-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Phenanthrene | 85-01-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Pyrene | 129-00-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| ^ Sum of PAHs | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| **EP080S: TPH(V)/BTEX Surrogates** | | | | | | | | | |
| 1.2-Dichloroethane-D4 | 17060-07-0 | 2 | % | | **113** | ---- | ---- | ---- | ---- |
| Toluene-D8 | 2037-26-5 | 2 | % | | **117** | ---- | ---- | ---- | ---- |
| 4-Bromofluorobenzene | 460-00-4 | 2 | % | | **120** | ---- | ---- | ---- | ---- |
| **EP132T: Base/Neutral Extractable Surrogates** | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.1 | % | | **69.2** | ---- | ---- | ---- | ---- |
| Anthracene-d10 | 1719-06-8 | 0.1 | % | | **83.5** | ---- | ---- | ---- | ---- |
| 4-Terphenyl-d14 | 1718-51-0 | 0.1 | % | | **83.4** | ---- | ---- | ---- | ---- |

## Surrogate Control Limits

| Sub-Matrix: **WATER** | | Recovery Limits (%) | |
|---|---|---|---|
| *Compound* | *CAS Number* | *Low* | *High* |
| **EP080S: TPH(V)/BTEX Surrogates** | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 71 | 137 |
| **Toluene-D8** | 2037-26-5 | 79 | 131 |
| **4-Bromofluorobenzene** | 460-00-4 | 70 | 128 |
| **EP132T: Base/Neutral Extractable Surrogates** | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 43 | 135 |
| **Anthracene-d10** | 1719-06-8 | 48 | 138 |
| **4-Terphenyl-d14** | 1718-51-0 | 48 | 144 |

# QUALITY CONTROL REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2006512** | Page | : 1 of 6 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Lauren Ockwell |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : 08 9406 1308 |
| Project | : 21-27234 Central | Date Samples Received | : 25-Feb-2020 |
| Order number | : ---- | Date Analysis Commenced | : 26-Feb-2020 |
| C-O-C number | : ---- | Issue Date | : 03-Mar-2020 |
| Sampler | : Terry Nham | | |
| Site | : | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Ivan Taylor | Analyst | Sydney Inorganics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EG020F: Dissolved Metals by ICP-MS (QC Lot: 2884767)** | | | | | | | | | |
| ES2006614-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | 0.010 | 0.014 | 32.0 | 0% - 50% |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | 0.046 | 0.046 | 0.00 | 0% - 20% |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | 0.085 | 0.080 | 6.23 | 0% - 20% |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | 0.208 | 0.194 | 6.92 | 0% - 20% |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.006 | 26.4 | No Limit |
| ES2006548-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | 0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | 0.005 | 0.001 | 113 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | 0.004 | 0.004 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | 0.016 | 0.015 | 10.5 | No Limit |
| **EG035F: Dissolved Mercury by FIMS (QC Lot: 2884768)** | | | | | | | | | |
| ES2006548-001 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| **EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2879278)** | | | | | | | | | |
| ES2006407-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES2006412-022 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2879278)** | | | | | | | | | |
| ES2006407-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES2006412-022 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080: BTEXN (QC Lot: 2879278)** | | | | | | | | | |
| ES2006407-001 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EP080: BTEXN (QC Lot: 2879278) - continued** | | | | | | | | | |
| ES2006407-001 | Anonymous | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |
| ES2006412-022 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |

## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | Spike Recovery (%) | Recovery Limits (%) | |
| Method: Compound | CAS Number | LOR | Unit | Result | Concentration | LCS | Low | High |
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2884767)** | | | | | | | | |
| EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 92.9 | 85.0 | 114 |
| EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | 0.1 mg/L | 94.0 | 84.0 | 110 |
| EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 92.9 | 85.0 | 111 |
| EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 90.6 | 81.0 | 111 |
| EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 92.7 | 83.0 | 111 |
| EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 90.5 | 82.0 | 112 |
| EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.1 mg/L | 91.6 | 81.0 | 117 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2884768)** | | | | | | | | |
| EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | 0.01 mg/L | 98.5 | 83.0 | 105 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2879278)** | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | 260 µg/L | 94.6 | 75.0 | 127 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2880217)** | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | µg/L | <50 | 400 µg/L | 60.9 | 55.8 | 112 |
| EP071: C15 - C28 Fraction | ---- | 100 | µg/L | <100 | 600 µg/L | 84.2 | 71.6 | 113 |
| EP071: C29 - C36 Fraction | ---- | 50 | µg/L | <50 | 400 µg/L | 82.8 | 56.0 | 121 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2879278)** | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | 310 µg/L | 98.8 | 75.0 | 127 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2880217)** | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 100 | µg/L | <100 | 500 µg/L | 68.5 | 57.9 | 119 |
| EP071: >C16 - C34 Fraction | ---- | 100 | µg/L | <100 | 700 µg/L | 87.6 | 62.5 | 110 |
| EP071: >C34 - C40 Fraction | ---- | 100 | µg/L | <100 | 300 µg/L | 80.2 | 61.5 | 121 |
| **EP080: BTEXN (QCLot: 2879278)** | | | | | | | | |
| EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | 10 µg/L | 91.4 | 70.0 | 122 |
| EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | 10 µg/L | 97.1 | 69.0 | 123 |
| EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | 10 µg/L | 103 | 70.0 | 120 |
| EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | 10 µg/L | 102 | 69.0 | 121 |
| EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | 10 µg/L | 103 | 72.0 | 122 |
| EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | 10 µg/L | 102 | 70.0 | 120 |
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2880558)** | | | | | | | | |
| EP132: 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 76.0 | 60.0 | 120 |
| EP132: 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 63.8 | 59.0 | 123 |
| EP132: 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 80.0 | 36.0 | 144 |

Sub-Matrix: **WATER**

| Method: Compound | CAS Number | LOR | Unit | Method Blank (MB) Report: Result | Laboratory Control Spike (LCS) Report: Spike Concentration | Spike Recovery (%): LCS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|---|
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2880558) - continued** | | | | | | | | |
| EP132: Acenaphthene | 83-32-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 69.8 | 64.0 | 122 |
| EP132: Acenaphthylene | 208-96-8 | 0.1 | µg/L | <0.1 | 2 µg/L | 69.7 | 64.0 | 126 |
| EP132: Anthracene | 120-12-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 74.8 | 65.0 | 127 |
| EP132: Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 78.1 | 64.0 | 130 |
| EP132: Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | <0.05 | 2 µg/L | 78.2 | 64.0 | 126 |
| EP132: Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.3 | 62.0 | 126 |
| EP132: Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.7 | 62.0 | 126 |
| EP132: Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.0 | 56.0 | 126 |
| EP132: Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.4 | 68.0 | 130 |
| EP132: Chrysene | 218-01-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 78.3 | 66.0 | 130 |
| EP132: Coronene | 191-07-1 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.1 | 35.0 | 133 |
| EP132: Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.2 | 58.0 | 128 |
| EP132: Fluoranthene | 206-44-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 76.0 | 65.0 | 127 |
| EP132: Fluorene | 86-73-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 72.3 | 64.0 | 124 |
| EP132: Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 77.3 | 57.0 | 127 |
| EP132: Naphthalene | 91-20-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 60.9 | 54.0 | 128 |
| EP132: Perylene | 198-55-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 78.1 | 66.0 | 130 |
| EP132: Phenanthrene | 85-01-8 | 0.1 | µg/L | <0.1 | 2 µg/L | 74.1 | 65.0 | 129 |
| EP132: Pyrene | 129-00-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 76.0 | 66.0 | 128 |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Matrix Spike (MS) Report: Spike Concentration | SpikeRecovery(%): MS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2884767)** | | | | | | | |
| ES2006512-001 | QC01 | EG020A-F: Arsenic | 7440-38-2 | 1 mg/L | 90.1 | 70.0 | 130 |
| | | EG020A-F: Cadmium | 7440-43-9 | 0.25 mg/L | 90.7 | 70.0 | 130 |
| | | EG020A-F: Chromium | 7440-47-3 | 1 mg/L | 96.8 | 70.0 | 130 |
| | | EG020A-F: Copper | 7440-50-8 | 1 mg/L | 101 | 70.0 | 130 |
| | | EG020A-F: Lead | 7439-92-1 | 1 mg/L | 93.7 | 70.0 | 130 |
| | | EG020A-F: Nickel | 7440-02-0 | 1 mg/L | 89.0 | 70.0 | 130 |
| | | EG020A-F: Zinc | 7440-66-6 | 1 mg/L | 90.9 | 70.0 | 130 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2884768)** | | | | | | | |
| ES2006512-001 | QC01 | EG035F: Mercury | 7439-97-6 | 0.01 mg/L | 87.5 | 70.0 | 130 |

Sub-Matrix: **WATER**

| | | | | Matrix Spike (MS) Report | | | |
|---|---|---|---|---|---|---|---|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *Concentration* | *MS* | *Low* | *High* |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2879278)** | | | | | | | |
| ES2006407-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 325 µg/L | 116 | 70.0 | 130 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2879278)** | | | | | | | |
| ES2006407-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 375 µg/L | 112 | 70.0 | 130 |
| **EP080: BTEXN (QCLot: 2879278)** | | | | | | | |
| ES2006407-001 | Anonymous | EP080: Benzene | 71-43-2 | 25 µg/L | 91.2 | 70.0 | 130 |
| | | EP080: Toluene | 108-88-3 | 25 µg/L | 94.0 | 70.0 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 25 µg/L | 100 | 70.0 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 25 µg/L | 100 | 70.0 | 130 |
| | | EP080: ortho-Xylene | 95-47-6 | 25 µg/L | 101 | 70.0 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 25 µg/L | 107 | 70.0 | 130 |

ALS Environmental

# QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2006512** | Page | : 1 of 4 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Telephone | : 08 9406 1308 |
| Project | : 21-27234 Central | Date Samples Received | : 25-Feb-2020 |
| Site | : | Issue Date | : 03-Mar-2020 |
| Sampler | : Terry Nham | No. of samples received | : 1 |
| Order number | : ---- | No. of samples analysed | : 1 |

**This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.**

Brief method summaries and references are also provided to assist in traceability.

## Summary of Outliers

### Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

### Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

### Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

## Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type / Method | Count QC | Count Regular | Rate (%) Actual | Rate (%) Expected | Quality Control Specification |
|---|---|---|---|---|---|
| **Laboratory Duplicates (DUP)** | | | | | |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | 0 | 4 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 10 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| **Matrix Spikes (MS)** | | | | | |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | 0 | 4 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 10 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |

## Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

| Method / Container / Client Sample ID(s) | Sample Date | Extraction / Preparation: Date extracted | Extraction / Preparation: Due for extraction | Extraction / Preparation: Evaluation | Analysis: Date analysed | Analysis: Due for analysis | Analysis: Evaluation |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)** | | | | | | | |
| QC01 | **24-Feb-2020** | **----** | ---- | ---- | **28-Feb-2020** | 22-Aug-2020 | ✓ |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)** | | | | | | | |
| QC01 | **24-Feb-2020** | **----** | ---- | ---- | **02-Mar-2020** | 23-Mar-2020 | ✓ |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **24-Feb-2020** | **26-Feb-2020** | 02-Mar-2020 | ✓ | **02-Mar-2020** | 06-Apr-2020 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **24-Feb-2020** | **26-Feb-2020** | 09-Mar-2020 | ✓ | **26-Feb-2020** | 09-Mar-2020 | ✓ |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **24-Feb-2020** | **26-Feb-2020** | 02-Mar-2020 | ✓ | **02-Mar-2020** | 06-Apr-2020 | ✓ |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **24-Feb-2020** | **26-Feb-2020** | 09-Mar-2020 | ✓ | **26-Feb-2020** | 09-Mar-2020 | ✓ |
| **EP080: BTEXN** | | | | | | | |
| **Amber VOC Vial - Sulfuric Acid (EP080)** | | | | | | | |
| QC01 | **24-Feb-2020** | **26-Feb-2020** | 09-Mar-2020 | ✓ | **26-Feb-2020** | 09-Mar-2020 | ✓ |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP132)** | | | | | | | |
| QC01 | **24-Feb-2020** | **27-Feb-2020** | 02-Mar-2020 | ✓ | **27-Feb-2020** | 07-Apr-2020 | ✓ |

# Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|---|---|---|---|---|---|---|---|
| *Analytical Methods* | *Method* | *QC* | *Regular* | ***Actual*** | ***Expected*** | *Evaluation* | |
| **Laboratory Duplicates (DUP)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 9 | **11.11** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 2 | 12 | **16.67** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 0 | 4 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 10 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 20 | **10.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| **Laboratory Control Samples (LCS)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 9 | **11.11** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 12 | **8.33** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 4 | **25.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 10 | **10.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| **Method Blanks (MB)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 9 | **11.11** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 12 | **8.33** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 4 | **25.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 10 | **10.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| **Matrix Spikes (MS)** | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 9 | **11.11** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 12 | **8.33** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 0 | 4 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 10 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |

## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | WATER | In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. |
| Dissolved Mercury by FIMS | EG035F | WATER | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH - Semivolatile Fraction | EP071 | WATER | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| TRH Volatiles/BTEX | EP080 | WATER | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | WATER | In house: Referenced to USEPA 3640 (GPC Cleanup), 8270D GCMS Capiliary column, SIM mode. This method is compliant with NEPM (2013) Schedule B(3) |

| Preparation Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Separatory Funnel Extraction of Liquids | ORG14 | WATER | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Sep. Funnel Extraction /Acetylation of Phenolic Compounds | ORG14-AC | WATER | In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Volatiles Water Preparation | ORG16-W | WATER | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging. |

# CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

| | | |
|---|---|---|
| **CLIENT:** GHD Pty Ltd | **TURNAROUND REQUIREMENTS** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) | ☒ Standard TAT (List due date): |
| **OFFICE:** Sydney | | ☐ Non Standard or urgent TAT (List due date): |
| **PROJECT:** 21-27234 Central | **ALS QUOTE NO.:** EN/005/19 | |
| **ORDER NUMBER:** | | |
| **PROJECT MANAGER:** Henry Luo | **CONTACT PH:** 02 9239 7044 / 0414 090 002 | |
| **SAMPLER:** Terry Nham | **SAMPLER MOBILE:** 0403 251 883 | |
| **COC emailed to ALS?** ( YES / NO) | **EDD FORMAT (or default):** | |
| **Email Reports to:** henry.luo@ghd.com terry.nham@ghd.com | | |
| **Email Invoice to** (will default to PM if no other addresses are listed): | | |

**COC SEQUENCE NUMBER** (Circle)
COC: (1) 2 3 4 5 6 7
OF: (1) 2 3 4 5 6 7

**FOR LABORATORY USE ONLY** (Circle)
Custody Seal Intact? Yes No (N/A)
Free ice / frozen ice bricks present upon receipt: (Yes) No N/A
Random Sample Temperature on Receipt: 4.4 °C
Other Comment:

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Terry Nham (GHD) | Sep-ALS Crows Nest | | |
| DATE/TIME: 24/2/20 | DATE/TIME: 25/02/2020 1610 | DATE/TIME: | DATE/TIME: 25/2/20 1900 |

**COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:**

| ALS USE | SAMPLE DETAILS MATRIX: SOLID (S) WATER (W) | | | CONTAINER INFORMATION | | ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required). | | |
|---|---|---|---|---|---|---|---|---|
| LAB ID | SAMPLE ID | DATE / TIME | MATRIX | TYPE & PRESERVATIVE (refer to codes below) | TOTAL CONTAINERS | TRH / BTEXN / 8 Metals (W-6) | PAH - Ultra Trace | |
| | QC01 | 24/2/20 | Water | | 9 | X | X | |
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| | | | | TOTAL | | | | |

Environmental Division
Sydney
Work Order Reference
ES2006512
Telephone : +61-2-8784 8555

***Water Container Codes:*** P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2009232** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Lauren Ockwell |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : 08 9406 1308 |
| Project | : 2127234 | Date Samples Received | : 17-Mar-2020 15:49 |
| Order number | : ---- | Date Analysis Commenced | : 19-Mar-2020 |
| C-O-C number | : ---- | Issue Date | : 24-Mar-2020 14:06 |
| Sampler | : TERRY NHAM | | |
| Site | : Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 16-Mar-2020 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | ES2009232-001 | -------- | -------- | -------- | -------- | |
| | | | | Result | ---- | ---- | ---- | ---- | |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | | | |
| **Arsenic** | 7440-38-2 | 0.001 | mg/L | **0.001** | ---- | ---- | ---- | ---- | |
| **Cadmium** | 7440-43-9 | 0.0001 | mg/L | <0.0001 | ---- | ---- | ---- | ---- | |
| **Chromium** | 7440-47-3 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- | |
| **Copper** | 7440-50-8 | 0.001 | mg/L | **0.006** | ---- | ---- | ---- | ---- | |
| **Nickel** | 7440-02-0 | 0.001 | mg/L | **0.005** | ---- | ---- | ---- | ---- | |
| **Lead** | 7439-92-1 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- | |
| **Zinc** | 7440-66-6 | 0.005 | mg/L | **0.038** | ---- | ---- | ---- | ---- | |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | | | |
| **Mercury** | 7439-97-6 | 0.0001 | mg/L | <0.0001 | ---- | ---- | ---- | ---- | |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | | | |
| **C6 - C9 Fraction** | ---- | 20 | µg/L | <20 | ---- | ---- | ---- | ---- | |
| **C10 - C14 Fraction** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- | |
| **C15 - C28 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- | |
| **C29 - C36 Fraction** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- | |
| ^ **C10 - C36 Fraction (sum)** | ---- | 50 | µg/L | <50 | ---- | ---- | ---- | ---- | |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | | | |
| **C6 - C10 Fraction** | C6_C10 | 20 | µg/L | <20 | ---- | ---- | ---- | ---- | |
| ^ **C6 - C10 Fraction minus BTEX (F1)** | C6_C10-BTEX | 20 | µg/L | <20 | ---- | ---- | ---- | ---- | |
| **>C10 - C16 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- | |
| **>C16 - C34 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- | |
| **>C34 - C40 Fraction** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- | |
| ^ **>C10 - C40 Fraction (sum)** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- | |
| ^ **>C10 - C16 Fraction minus Naphthalene (F2)** | ---- | 100 | µg/L | <100 | ---- | ---- | ---- | ---- | |
| **EP080: BTEXN** | | | | | | | | | |
| **Benzene** | 71-43-2 | 1 | µg/L | <1 | ---- | ---- | ---- | ---- | |
| **Toluene** | 108-88-3 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- | |
| **Ethylbenzene** | 100-41-4 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- | |
| **meta- & para-Xylene** | 108-38-3 106-42-3 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- | |
| **ortho-Xylene** | 95-47-6 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- | |
| ^ **Total Xylenes** | ---- | 2 | µg/L | <2 | ---- | ---- | ---- | ---- | |
| ^ **Sum of BTEX** | ---- | 1 | µg/L | <1 | ---- | ---- | ---- | ---- | |
| **Naphthalene** | 91-20-3 | 5 | µg/L | <5 | ---- | ---- | ---- | ---- | |

## Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | QC01 | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Client sampling date / time | 16-Mar-2020 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES2009232-001 | -------- | -------- | -------- | -------- |
| | | | | | Result | ---- | ---- | ---- | ---- |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | | | |
| 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthene | 83-32-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Acenaphthylene | 208-96-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Anthracene | 120-12-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Chrysene | 218-01-9 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Coronene | 191-07-1 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluoranthene | 206-44-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Fluorene | 86-73-7 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Naphthalene | 91-20-3 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Perylene | 198-55-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Phenanthrene | 85-01-8 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| Pyrene | 129-00-0 | 0.1 | µg/L | | <0.1 | ---- | ---- | ---- | ---- |
| ^ Sum of PAHs | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.05 | µg/L | | <0.05 | ---- | ---- | ---- | ---- |
| **EP080S: TPH(V)/BTEX Surrogates** | | | | | | | | | |
| 1.2-Dichloroethane-D4 | 17060-07-0 | 2 | % | | **108** | ---- | ---- | ---- | ---- |
| Toluene-D8 | 2037-26-5 | 2 | % | | **109** | ---- | ---- | ---- | ---- |
| 4-Bromofluorobenzene | 460-00-4 | 2 | % | | **110** | ---- | ---- | ---- | ---- |
| **EP132T: Base/Neutral Extractable Surrogates** | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.1 | % | | **60.9** | ---- | ---- | ---- | ---- |
| Anthracene-d10 | 1719-06-8 | 0.1 | % | | **77.4** | ---- | ---- | ---- | ---- |
| 4-Terphenyl-d14 | 1718-51-0 | 0.1 | % | | **84.0** | ---- | ---- | ---- | ---- |

## Surrogate Control Limits

Sub-Matrix: **WATER**

| Compound | CAS Number | Recovery Limits (%) Low | High |
|---|---|---|---|
| **EP080S: TPH(V)/BTEX Surrogates** | | | |
| **1.2-Dichloroethane-D4** | 17060-07-0 | 71 | 137 |
| **Toluene-D8** | 2037-26-5 | 79 | 131 |
| **4-Bromofluorobenzene** | 460-00-4 | 70 | 128 |
| **EP132T: Base/Neutral Extractable Surrogates** | | | |
| **2-Fluorobiphenyl** | 321-60-8 | 43 | 135 |
| **Anthracene-d10** | 1719-06-8 | 48 | 138 |
| **4-Terphenyl-d14** | 1718-51-0 | 48 | 144 |

ALS Environmental

# QUALITY CONTROL REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2009232** | Page | : 1 of 6 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Contact | : Lauren Ockwell |
| Address | : LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9239 7100 | Telephone | : 08 9406 1308 |
| Project | : 2127234 | Date Samples Received | : 17-Mar-2020 |
| Order number | : ---- | Date Analysis Commenced | : 19-Mar-2020 |
| C-O-C number | : ---- | Issue Date | : 24-Mar-2020 |
| Sampler | : TERRY NHAM | | |
| Site | : Central | | |
| Quote number | : EN/005/19 | | |
| No. of samples received | : 1 | | |
| No. of samples analysed | : 1 | | |

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

## *Signatories*

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| *Signatories* | *Position* | *Accreditation Category* |
|---|---|---|
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |

## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

## Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EG020F: Dissolved Metals by ICP-MS (QC Lot: 2926366)** | | | | | | | | | |
| ES2009196-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | 0.002 | 0.003 | 0.00 | No Limit |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | 0.003 | 0.003 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | 0.001 | 0.001 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | 0.007 | 0.007 | 0.00 | No Limit |
| ES2009571-001 | Anonymous | EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| | | EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | 0.014 | 0.015 | 0.00 | 0% - 50% |
| | | EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | <0.001 | 0.00 | No Limit |
| | | EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | 0.002 | 0.002 | 0.00 | No Limit |
| | | EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | 0.007 | 0.008 | 0.00 | No Limit |
| **EG035F: Dissolved Mercury by FIMS (QC Lot: 2926367)** | | | | | | | | | |
| ES2009196-001 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| EW2001443-006 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | <0.0001 | 0.00 | No Limit |
| **EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2924800)** | | | | | | | | | |
| ES2009258-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES2009258-008 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2924800)** | | | | | | | | | |
| ES2009258-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| ES2009258-008 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | <20 | 0.00 | No Limit |
| **EP080: BTEXN (QC Lot: 2924800)** | | | | | | | | | |

Sub-Matrix: **WATER**

| | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *LOR* | *Unit* | *Original Result* | *Duplicate Result* | *RPD (%)* | *Recovery Limits (%)* |
| **EP080: BTEXN (QC Lot: 2924800) - continued** | | | | | | | | | |
| ES2009258-001 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |
| ES2009258-008 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |

## Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

| | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | Spike Recovery (%) | Recovery Limits (%) | |
| Method: Compound | CAS Number | LOR | Unit | Result | Concentration | LCS | Low | High |
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2926366)** | | | | | | | | |
| EG020A-F: Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 92.7 | 85.0 | 114 |
| EG020A-F: Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | 0.1 mg/L | 96.0 | 84.0 | 110 |
| EG020A-F: Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 96.6 | 85.0 | 111 |
| EG020A-F: Copper | 7440-50-8 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 92.9 | 81.0 | 111 |
| EG020A-F: Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 90.6 | 83.0 | 111 |
| EG020A-F: Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | 0.1 mg/L | 91.2 | 82.0 | 112 |
| EG020A-F: Zinc | 7440-66-6 | 0.005 | mg/L | <0.005 | 0.1 mg/L | 93.2 | 81.0 | 117 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2926367)** | | | | | | | | |
| EG035F: Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | 0.01 mg/L | 101 | 83.0 | 105 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2921366)** | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | µg/L | <50 | 400 µg/L | 68.5 | 55.8 | 112 |
| EP071: C15 - C28 Fraction | ---- | 100 | µg/L | <100 | 600 µg/L | 93.4 | 71.6 | 113 |
| EP071: C29 - C36 Fraction | ---- | 50 | µg/L | <50 | 400 µg/L | 88.4 | 56.0 | 121 |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2924800)** | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 20 | µg/L | <20 | 260 µg/L | 80.6 | 75.0 | 127 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2921366)** | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 100 | µg/L | <100 | 500 µg/L | 84.2 | 57.9 | 119 |
| EP071: >C16 - C34 Fraction | ---- | 100 | µg/L | <100 | 700 µg/L | 74.8 | 62.5 | 110 |
| EP071: >C34 - C40 Fraction | ---- | 100 | µg/L | <100 | 300 µg/L | 80.9 | 61.5 | 121 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2924800)** | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | 310 µg/L | 79.5 | 75.0 | 127 |
| **EP080: BTEXN (QCLot: 2924800)** | | | | | | | | |
| EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | 10 µg/L | 93.6 | 70.0 | 122 |
| EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | 10 µg/L | 90.7 | 69.0 | 123 |
| EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | 10 µg/L | 85.0 | 70.0 | 120 |
| EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 2 | µg/L | <2 | 10 µg/L | 88.8 | 69.0 | 121 |
| EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | 10 µg/L | 86.9 | 72.0 | 122 |
| EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | 10 µg/L | 90.4 | 70.0 | 120 |
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2921380)** | | | | | | | | |
| EP132: 3-Methylcholanthrene | 56-49-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 90.6 | 60.0 | 120 |
| EP132: 2-Methylnaphthalene | 91-57-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 59.0 | 59.0 | 123 |
| EP132: 7.12-Dimethylbenz(a)anthracene | 57-97-6 | 0.1 | µg/L | <0.1 | 2 µg/L | 108 | 36.0 | 144 |

Sub-Matrix: **WATER**

| Method: Compound | CAS Number | LOR | Unit | Method Blank (MB) Report: Result | Laboratory Control Spike (LCS) Report: Spike Concentration | Spike Recovery (%): LCS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|---|
| **EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2921380) - continued** | | | | | | | | |
| EP132: Acenaphthene | 83-32-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 65.9 | 64.0 | 122 |
| EP132: Acenaphthylene | 208-96-8 | 0.1 | µg/L | <0.1 | 2 µg/L | # 61.3 | 64.0 | 126 |
| EP132: Anthracene | 120-12-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 84.2 | 65.0 | 127 |
| EP132: Benz(a)anthracene | 56-55-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 86.8 | 64.0 | 130 |
| EP132: Benzo(a)pyrene | 50-32-8 | 0.05 | µg/L | <0.05 | 2 µg/L | 89.6 | 64.0 | 126 |
| EP132: Benzo(b+j)fluoranthene | 205-99-2<br>205-82-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 91.3 | 62.0 | 126 |
| EP132: Benzo(e)pyrene | 192-97-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 90.2 | 62.0 | 126 |
| EP132: Benzo(g.h.i)perylene | 191-24-2 | 0.1 | µg/L | <0.1 | 2 µg/L | 90.5 | 56.0 | 126 |
| EP132: Benzo(k)fluoranthene | 207-08-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 90.1 | 68.0 | 130 |
| EP132: Chrysene | 218-01-9 | 0.1 | µg/L | <0.1 | 2 µg/L | 89.8 | 66.0 | 130 |
| EP132: Coronene | 191-07-1 | 0.1 | µg/L | <0.1 | 2 µg/L | 90.1 | 35.0 | 133 |
| EP132: Dibenz(a.h)anthracene | 53-70-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 89.8 | 58.0 | 128 |
| EP132: Fluoranthene | 206-44-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 86.8 | 65.0 | 127 |
| EP132: Fluorene | 86-73-7 | 0.1 | µg/L | <0.1 | 2 µg/L | 71.6 | 64.0 | 124 |
| EP132: Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.1 | µg/L | <0.1 | 2 µg/L | 89.5 | 57.0 | 127 |
| EP132: Naphthalene | 91-20-3 | 0.1 | µg/L | <0.1 | 2 µg/L | 57.8 | 54.0 | 128 |
| EP132: Perylene | 198-55-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 91.3 | 66.0 | 130 |
| EP132: Phenanthrene | 85-01-8 | 0.1 | µg/L | <0.1 | 2 µg/L | 83.4 | 65.0 | 129 |
| EP132: Pyrene | 129-00-0 | 0.1 | µg/L | <0.1 | 2 µg/L | 87.1 | 66.0 | 128 |

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Matrix Spike (MS) Report: Spike Concentration | SpikeRecovery(%): MS | Recovery Limits (%): Low | Recovery Limits (%): High |
|---|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS (QCLot: 2926366)** | | | | | | | |
| ES2009131-010 | Anonymous | EG020A-F: Arsenic | 7440-38-2 | 1 mg/L | 92.9 | 70.0 | 130 |
| | | EG020A-F: Cadmium | 7440-43-9 | 0.25 mg/L | 97.0 | 70.0 | 130 |
| | | EG020A-F: Chromium | 7440-47-3 | 1 mg/L | 94.7 | 70.0 | 130 |
| | | EG020A-F: Copper | 7440-50-8 | 1 mg/L | 89.6 | 70.0 | 130 |
| | | EG020A-F: Lead | 7439-92-1 | 1 mg/L | 91.7 | 70.0 | 130 |
| | | EG020A-F: Nickel | 7440-02-0 | 1 mg/L | 91.6 | 70.0 | 130 |
| | | EG020A-F: Zinc | 7440-66-6 | 1 mg/L | 95.1 | 70.0 | 130 |
| **EG035F: Dissolved Mercury by FIMS (QCLot: 2926367)** | | | | | | | |
| ES2009180-001 | Anonymous | EG035F: Mercury | 7439-97-6 | 0.01 mg/L | 89.7 | 70.0 | 130 |

Sub-Matrix: **WATER**

| | | | | Matrix Spike (MS) Report | | | |
|---|---|---|---|---|---|---|---|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| *Laboratory sample ID* | *Client sample ID* | *Method: Compound* | *CAS Number* | *Concentration* | *MS* | *Low* | *High* |
| **EP080/071: Total Petroleum Hydrocarbons (QCLot: 2924800)** | | | | | | | |
| ES2009258-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 325 µg/L | 98.2 | 70.0 | 130 |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2924800)** | | | | | | | |
| ES2009258-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 375 µg/L | 91.2 | 70.0 | 130 |
| **EP080: BTEXN (QCLot: 2924800)** | | | | | | | |
| ES2009258-001 | Anonymous | EP080: Benzene | 71-43-2 | 25 µg/L | 103 | 70.0 | 130 |
| | | EP080: Toluene | 108-88-3 | 25 µg/L | 104 | 70.0 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 25 µg/L | 103 | 70.0 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3<br>106-42-3 | 25 µg/L | 103 | 70.0 | 130 |
| | | EP080: ortho-Xylene | 95-47-6 | 25 µg/L | 106 | 70.0 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 25 µg/L | 80.0 | 70.0 | 130 |

ALS Environmental

# QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|---|---|---|---|
| **Work Order** | : **ES2009232** | Page | : 1 of 5 |
| Client | : **GHD PTY LTD** | Laboratory | : Environmental Division Sydney |
| Contact | : MR HENRY LUO | Telephone | : 08 9406 1308 |
| Project | : 2127234 | Date Samples Received | : 17-Mar-2020 |
| Site | : Central | Issue Date | : 24-Mar-2020 |
| Sampler | : TERRY NHAM | No. of samples received | : 1 |
| Order number | : ---- | No. of samples analysed | : 1 |

**This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.**

Brief method summaries and references are also provided to assist in traceability.

## *Summary of Outliers*

### *Outliers : Quality Control Samples*

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

### *Outliers : Analysis Holding Time Compliance*

- **NO Analysis Holding Time Outliers exist.**

### *Outliers : Frequency of Quality Control Samples*

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

## Outliers : Quality Control Samples

*Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes*

Matrix: **WATER**

| Compound Group Name | Laboratory Sample ID | Client Sample ID | Analyte | CAS Number | Data | Limits | Comment |
|---|---|---|---|---|---|---|---|
| **Laboratory Control Spike (LCS) Recoveries** | | | | | | | |
| EP132B: Polynuclear Aromatic Hydrocarbons | QC-2921380-002 | ---- | **Acenaphthylene** | 208-96-8 | 61.3 % | 64.0-126% | **Recovery less than lower control limit** |

## Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

| Quality Control Sample Type | Count | | Rate (%) | | Quality Control Specification |
|---|---|---|---|---|---|
| Method | QC | Regular | Actual | Expected | |
| Laboratory Duplicates (DUP) | | | | | |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | 0 | 3 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 8 | 0.00 | 10.00 | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | 0 | 3 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | 0 | 8 | 0.00 | 5.00 | NEPM 2013 B3 & ALS QC Standard |

# Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

| ***Method*** / ***Container*** / *Client Sample ID(s)* | ***Sample Date*** | *Extraction / Preparation* | | | *Analysis* | | |
|---|---|---|---|---|---|---|---|
| | | ***Date extracted*** | *Due for extraction* | *Evaluation* | ***Date analysed*** | *Due for analysis* | *Evaluation* |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)** | | | | | | | |
| QC01 | **16-Mar-2020** | **----** | ---- | ---- | **20-Mar-2020** | 12-Sep-2020 | ✓ |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | | |
| **Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)** | | | | | | | |
| QC01 | **16-Mar-2020** | **----** | ---- | ---- | **20-Mar-2020** | 13-Apr-2020 | ✓ |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **16-Mar-2020** | **19-Mar-2020** | 23-Mar-2020 | ✓ | **20-Mar-2020** | 28-Apr-2020 | ✓ |
| **Clear glass VOC vial - HCl (EP080)** | | | | | | | |
| QC01 | **16-Mar-2020** | **19-Mar-2020** | 30-Mar-2020 | ✓ | **19-Mar-2020** | 30-Mar-2020 | ✓ |

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

| Method / Container / Client Sample ID(s) | Sample Date | Extraction / Preparation | | | Analysis | | |
|---|---|---|---|---|---|---|---|
| | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| **EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP071)** | | | | | | | |
| QC01 | **16-Mar-2020** | **19-Mar-2020** | 23-Mar-2020 | ✓ | **20-Mar-2020** | 28-Apr-2020 | ✓ |
| **Clear glass VOC vial - HCl (EP080)** | | | | | | | |
| QC01 | **16-Mar-2020** | **19-Mar-2020** | 30-Mar-2020 | ✓ | **19-Mar-2020** | 30-Mar-2020 | ✓ |
| **EP080: BTEXN** | | | | | | | |
| **Clear glass VOC vial - HCl (EP080)** | | | | | | | |
| QC01 | **16-Mar-2020** | **19-Mar-2020** | 30-Mar-2020 | ✓ | **19-Mar-2020** | 30-Mar-2020 | ✓ |
| **EP132B: Polynuclear Aromatic Hydrocarbons** | | | | | | | |
| **Amber Glass Bottle - Unpreserved (EP132)** | | | | | | | |
| QC01 | **16-Mar-2020** | **19-Mar-2020** | 23-Mar-2020 | ✓ | **20-Mar-2020** | 28-Apr-2020 | ✓ |

# Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|---|---|---|---|---|---|---|---|
| *Analytical Methods* | *Method* | *QC* | *Regular* | ***Actual*** | ***Expected*** | *Evaluation* | |
| Laboratory Duplicates (DUP) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 2 | 20 | **10.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 2 | 16 | **12.50** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 0 | 3 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 8 | **0.00** | **10.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 20 | **10.00** | **10.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 16 | **6.25** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 3 | **33.33** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 8 | **12.50** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 16 | **6.25** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 1 | 3 | **33.33** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 1 | 8 | **12.50** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | | | |
| Dissolved Mercury by FIMS | EG035F | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | 1 | 16 | **6.25** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | 0 | 3 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 0 | 8 | **0.00** | **5.00** | × | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 1 | 20 | **5.00** | **5.00** | ✓ | NEPM 2013 B3 & ALS QC Standard |

## Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Dissolved Metals by ICP-MS - Suite A | EG020A-F | WATER | In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. |
| Dissolved Mercury by FIMS | EG035F | WATER | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| TRH - Semivolatile Fraction | EP071 | WATER | In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| TRH Volatiles/BTEX | EP080 | WATER | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| Semivolatile Compounds by GCMS(SIM - Ultra-trace) | EP132 | WATER | In house: Referenced to USEPA 3640 (GPC Cleanup), 8270D GCMS Capiliary column, SIM mode. This method is compliant with NEPM (2013) Schedule B(3) |

| Preparation Methods | Method | Matrix | Method Descriptions |
|---|---|---|---|
| Separatory Funnel Extraction of Liquids | ORG14 | WATER | In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Sep. Funnel Extraction /Acetylation of Phenolic Compounds | ORG14-AC | WATER | In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container. |
| Volatiles Water Preparation | ORG16-W | WATER | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging. |

# CHAIN OF CUSTODY

ALS Laboratory: please tick →


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☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com


| | | |
|---|---|---|
| CLIENT: GHD Pty Ltd | TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date): | FOR LABORATORY USE ONLY (Circle) |
| OFFICE: Sydney | (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date): | Custody Seal Intact? Yes No N/A |
| PROJECT: 21-27234 Central | ALS QUOTE NO.: EN/005/19 | Free ice / frozen ice bricks present upon receipt? Yes No N/A |
| ORDER NUMBER: | COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 | Random Sample Temperature on Receipt: 6.2 °C |
| PROJECT MANAGER: Henry Luo | CONTACT PH: 02 9239 7044 / 0414 090 002 | OF: 1 2 3 4 5 6 7 |
| SAMPLER: Terry Nham | SAMPLER MOBILE: 0403 251 883 | Other comment: |
| COC emailed to ALS? ( YES / NO) | EDD FORMAT (or default): | |
| Email Reports to: henry.luo@ghd.com terry.nham@ghd.com | | |
| Email Invoice to (will default to PM if no other addresses are listed): | | |

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Terry Nham (GHD) | Chris R ALS Crows Nest | | |
| DATE/TIME: 17/3/2020 | DATE/TIME: 17/3/2020 | DATE/TIME: | DATE/TIME: 17/3/20 1835 |

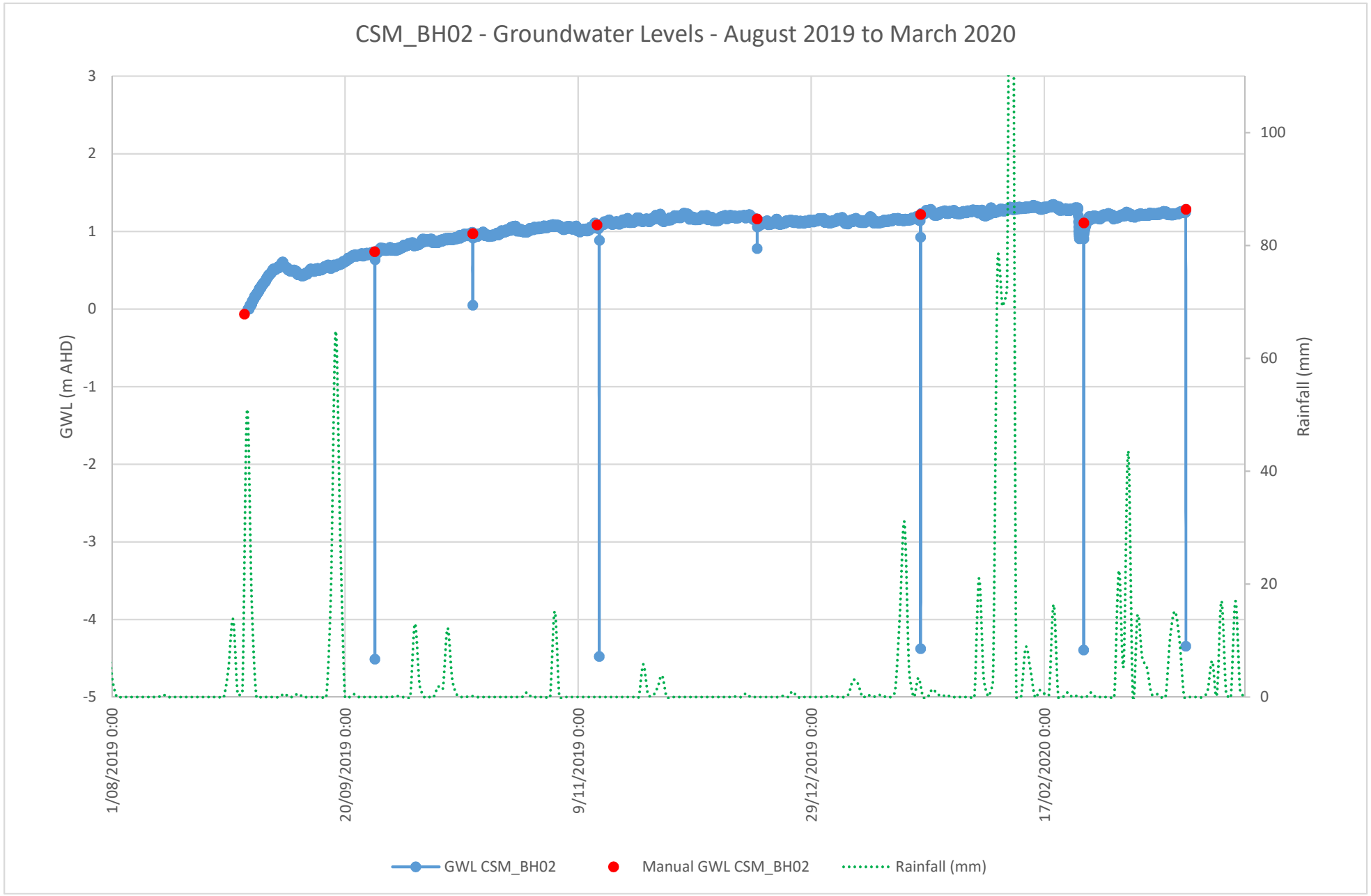
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

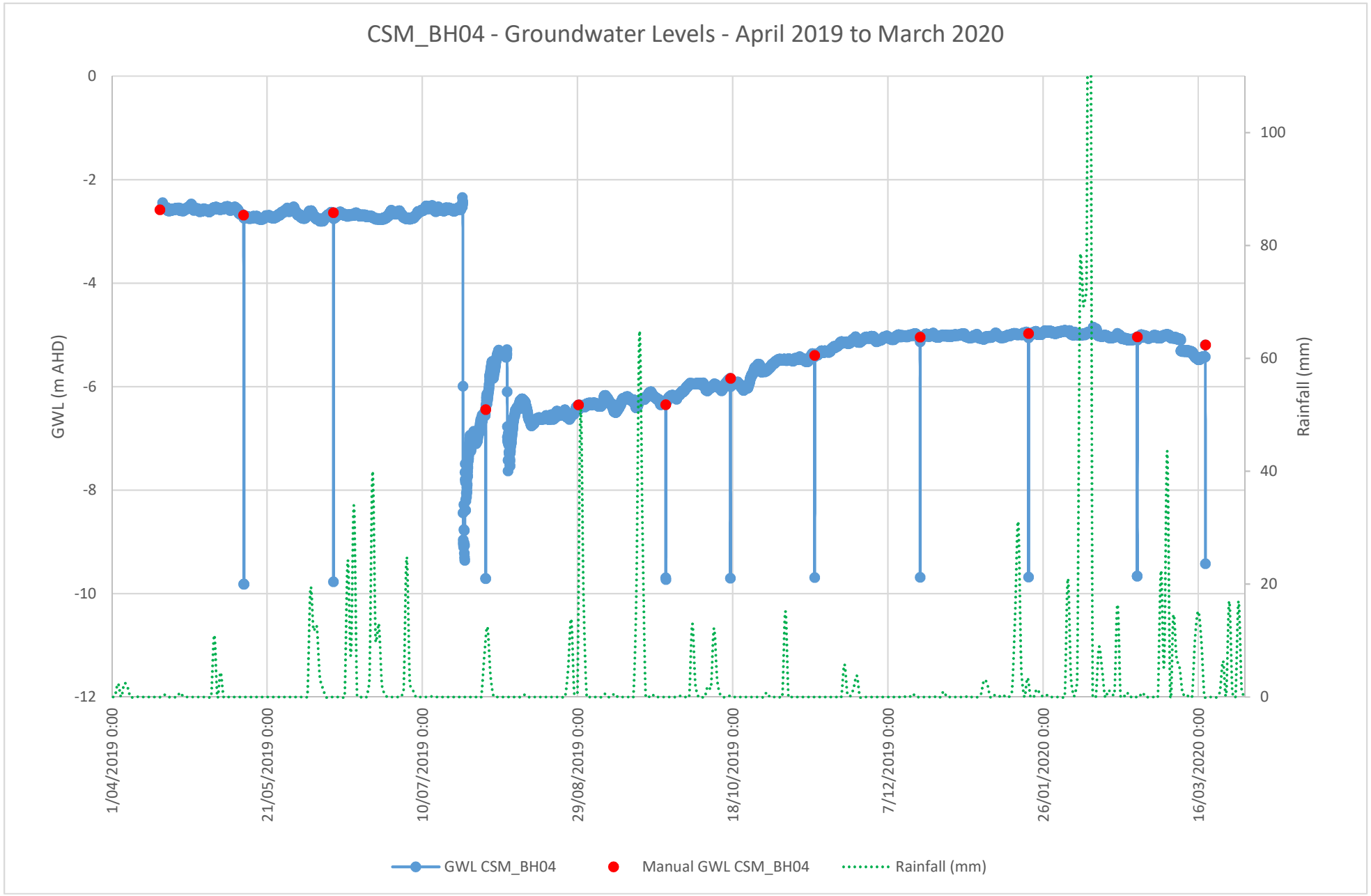
ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price)
Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

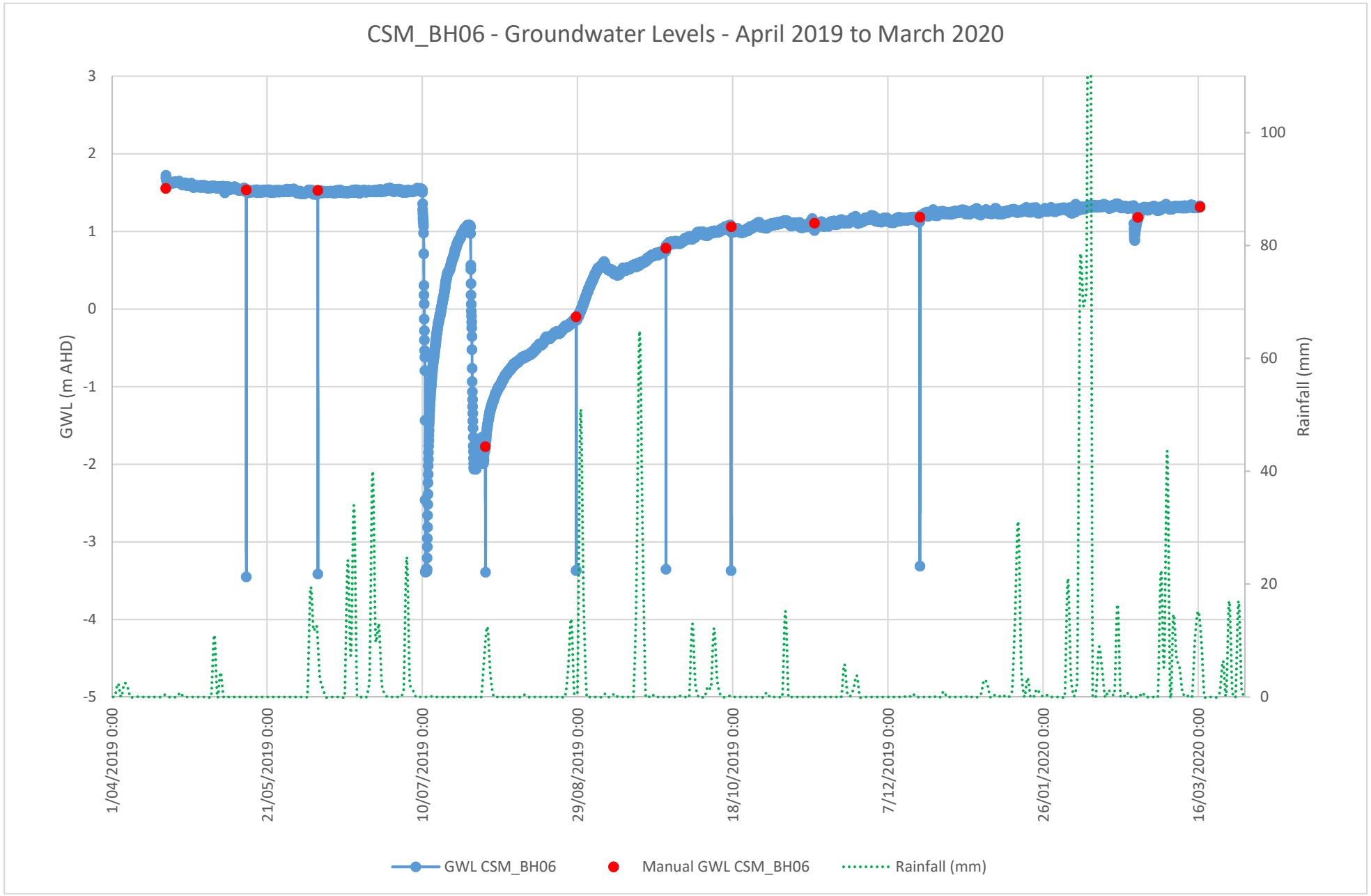
| ALS USE | SAMPLE DETAILS MATRIX: SOLID (S) WATER (W) | | | CONTAINER INFORMATION | | |

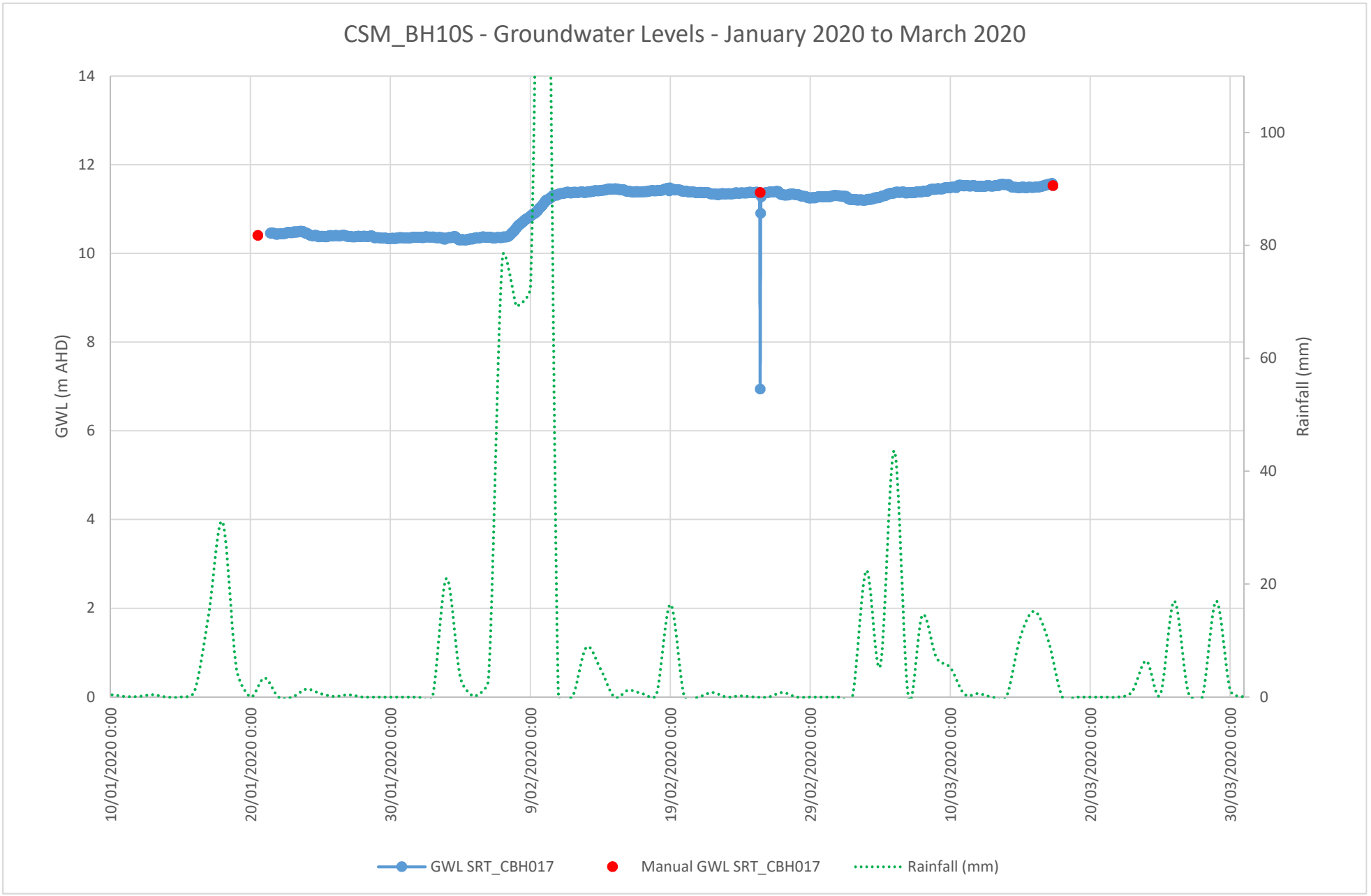
# Appendix D
# Graphs for groundwater levels and selected analytes / water quality parameters

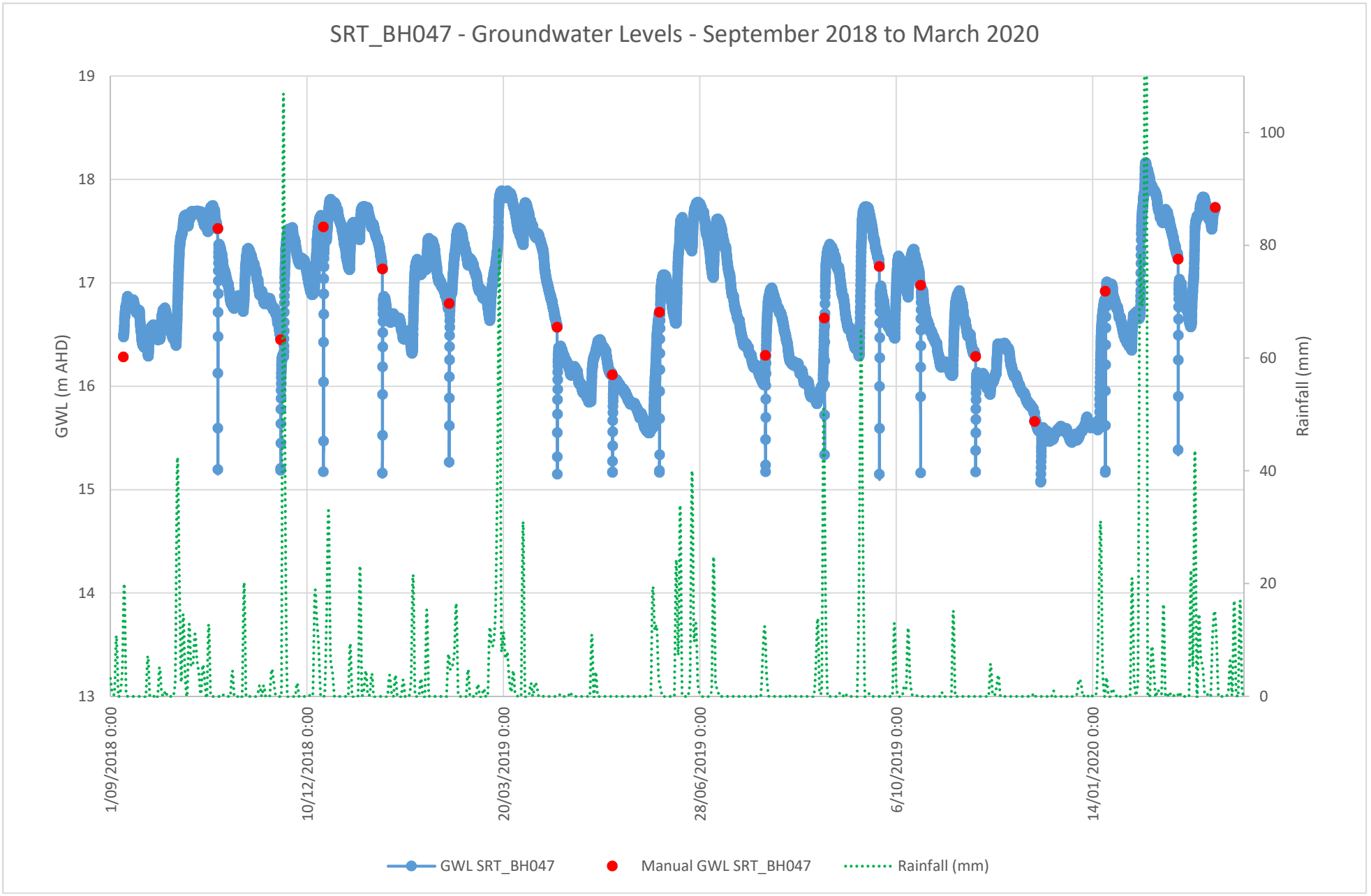
AGJV

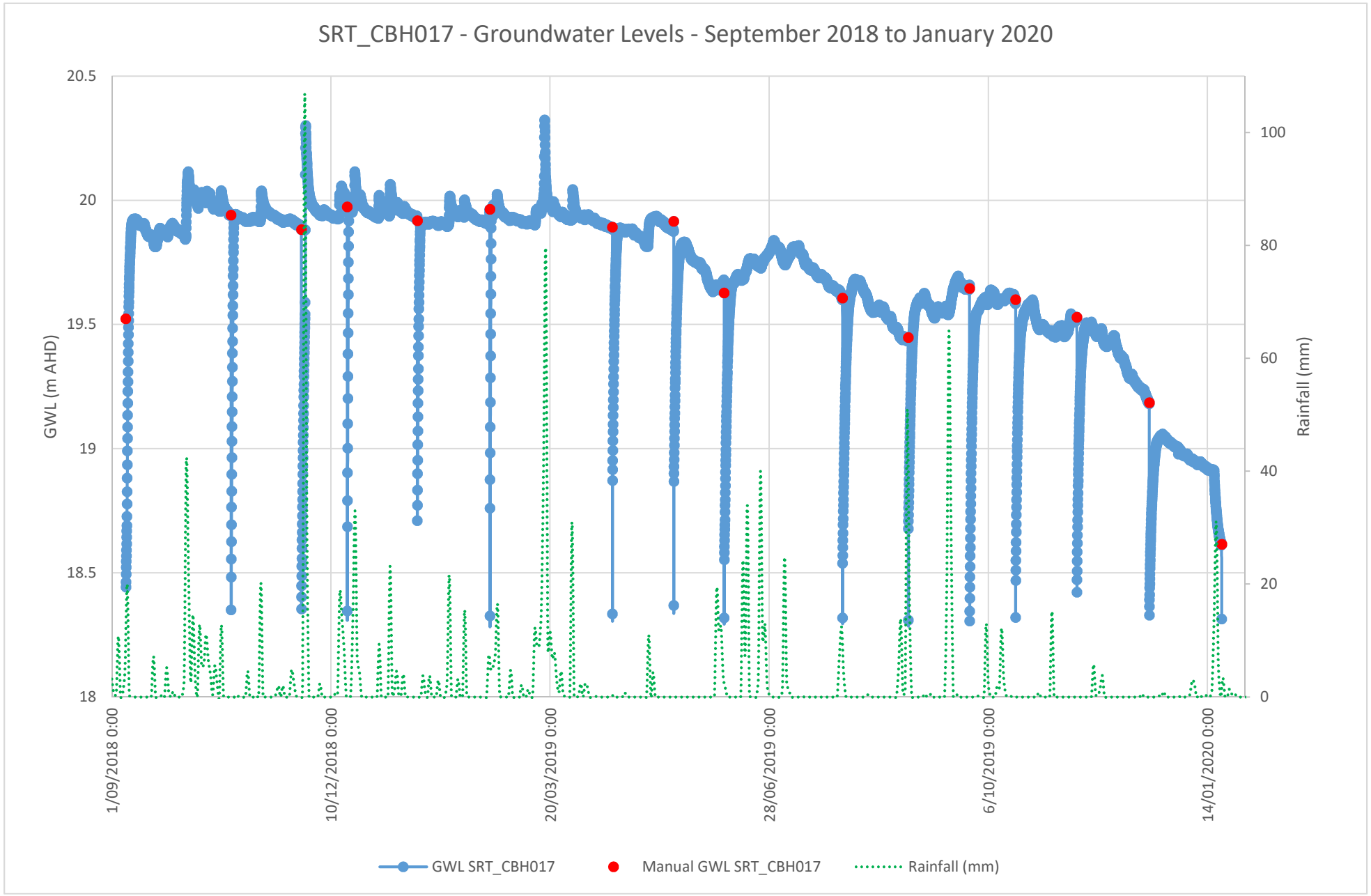

CSM_BH02 - Groundwater Levels - August 2019 to March 2020
GWL (m AHD)
Rainfall (mm)
3
2
1
0
-1
-2
-3
-4
-5
100
80
60
40
20
0
1/08/2019 0:00
20/09/2019 0:00
9/11/2019 0:00
29/12/2019 0:00
17/02/2020 0:00
GWL CSM_BH02
Manual GWL CSM_BH02
Rainfall (mm)

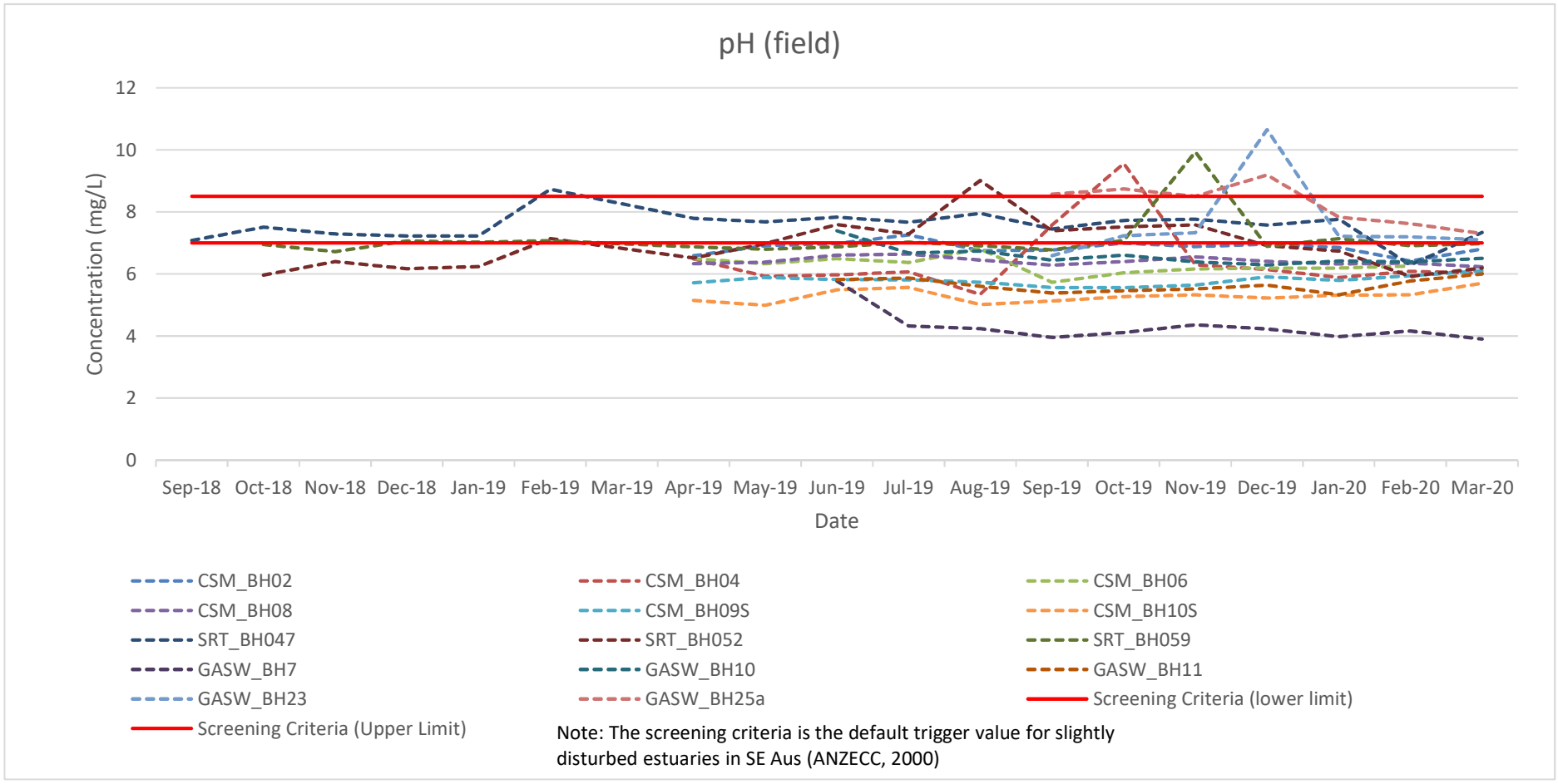

CSM_BH04 - Groundwater Levels - April 2019 to March 2020
GWL (m AHD)
0
-2
-4
-6
-8
-10
-12
Rainfall (mm)
100
80
60
40
20
0
1/04/2019 0:00
21/05/2019 0:00
10/07/2019 0:00
29/08/2019 0:00
18/10/2019 0:00
7/12/2019 0:00
26/01/2020 0:00
16/03/2020 0:00
GWL CSM_BH04
Manual GWL CSM_BH04
Rainfall (mm)

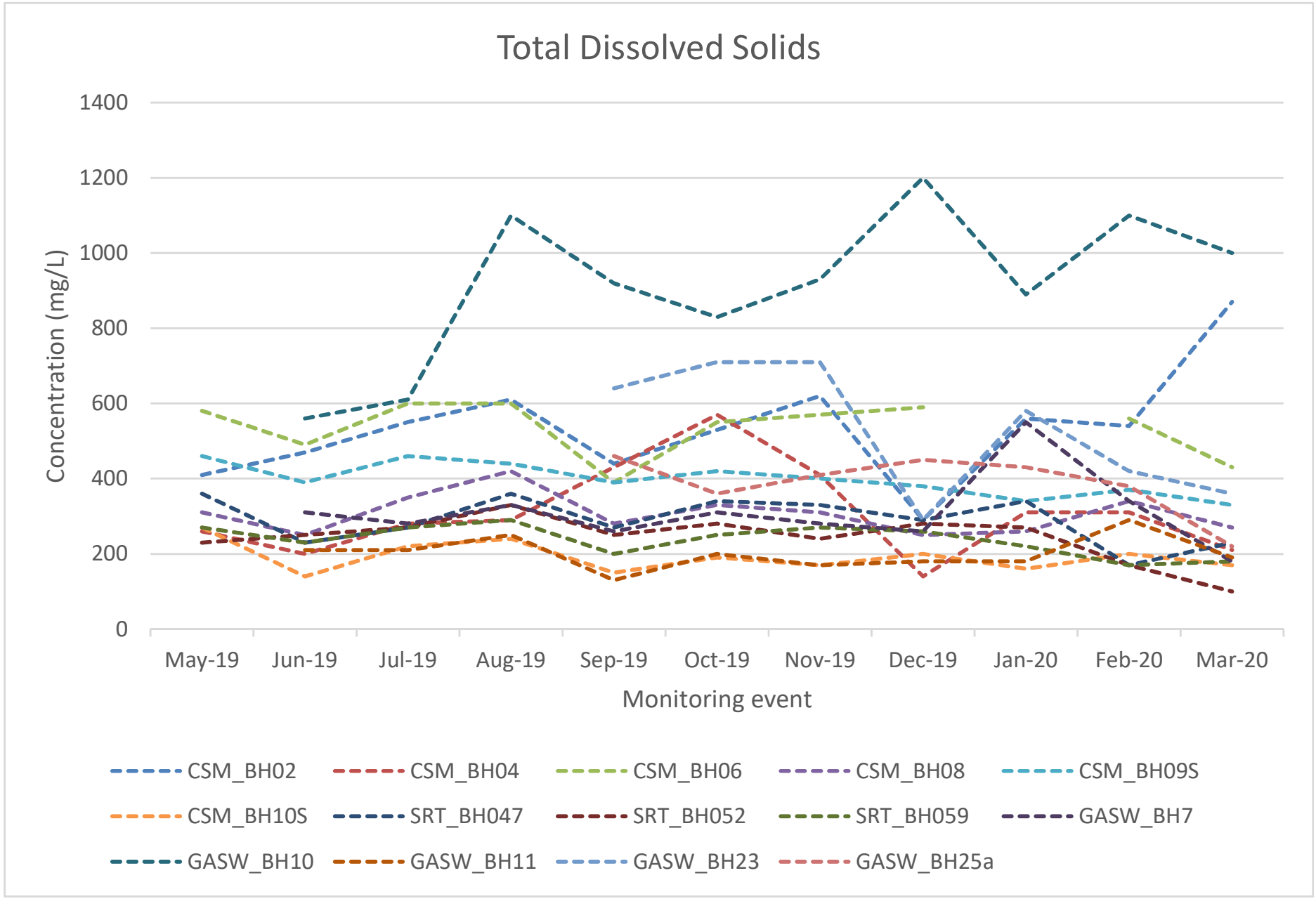

CSM_BH06 - Groundwater Levels - April 2019 to March 2020
GWL (m AHD)
Rainfall (mm)
3
2
1
0
-1
-2
-3
-4
-5
100
80
60
40
20
0
1/04/2019 0:00
21/05/2019 0:00
10/07/2019 0:00
29/08/2019 0:00
18/10/2019 0:00
7/12/2019 0:00
26/01/2020 0:00
16/03/2020 0:00
GWL CSM_BH06
Manual GWL CSM_BH06
Rainfall (mm)

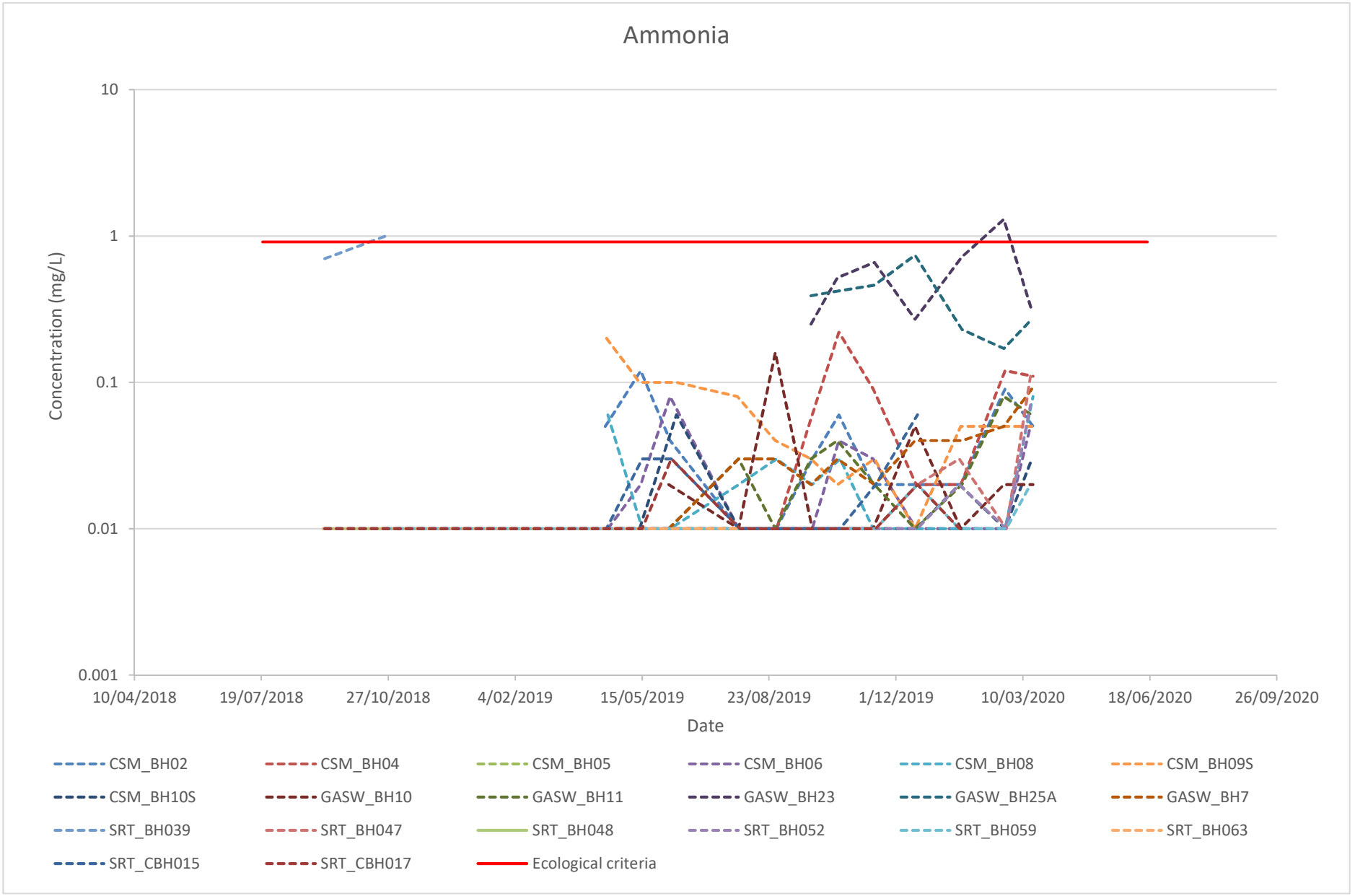

CSM_BH10S - Groundwater Levels - January 2020 to March 2020
GWL (m AHD)
Rainfall (mm)
14
12
10
8
6
4
2
0
100
80
60
40
20
0
10/01/2020 0:00
20/01/2020 0:00
30/01/2020 0:00
9/02/2020 0:00
19/02/2020 0:00
29/02/2020 0:00
10/03/2020 0:00
20/03/2020 0:00
30/03/2020 0:00
GWL SRT_CBH017
Manual GWL SRT_CBH017
Rainfall (mm)


SRT_BH047 - Groundwater Levels - September 2018 to March 2020
GWL (m AHD)
Rainfall (mm)
19
18
17
16
15
14
13
100
80
60
40
20
0
1/09/2018 0:00
10/12/2018 0:00
20/03/2019 0:00
28/06/2019 0:00
6/10/2019 0:00
14/01/2020 0:00
GWL SRT_BH047
Manual GWL SRT_BH047
Rainfall (mm)

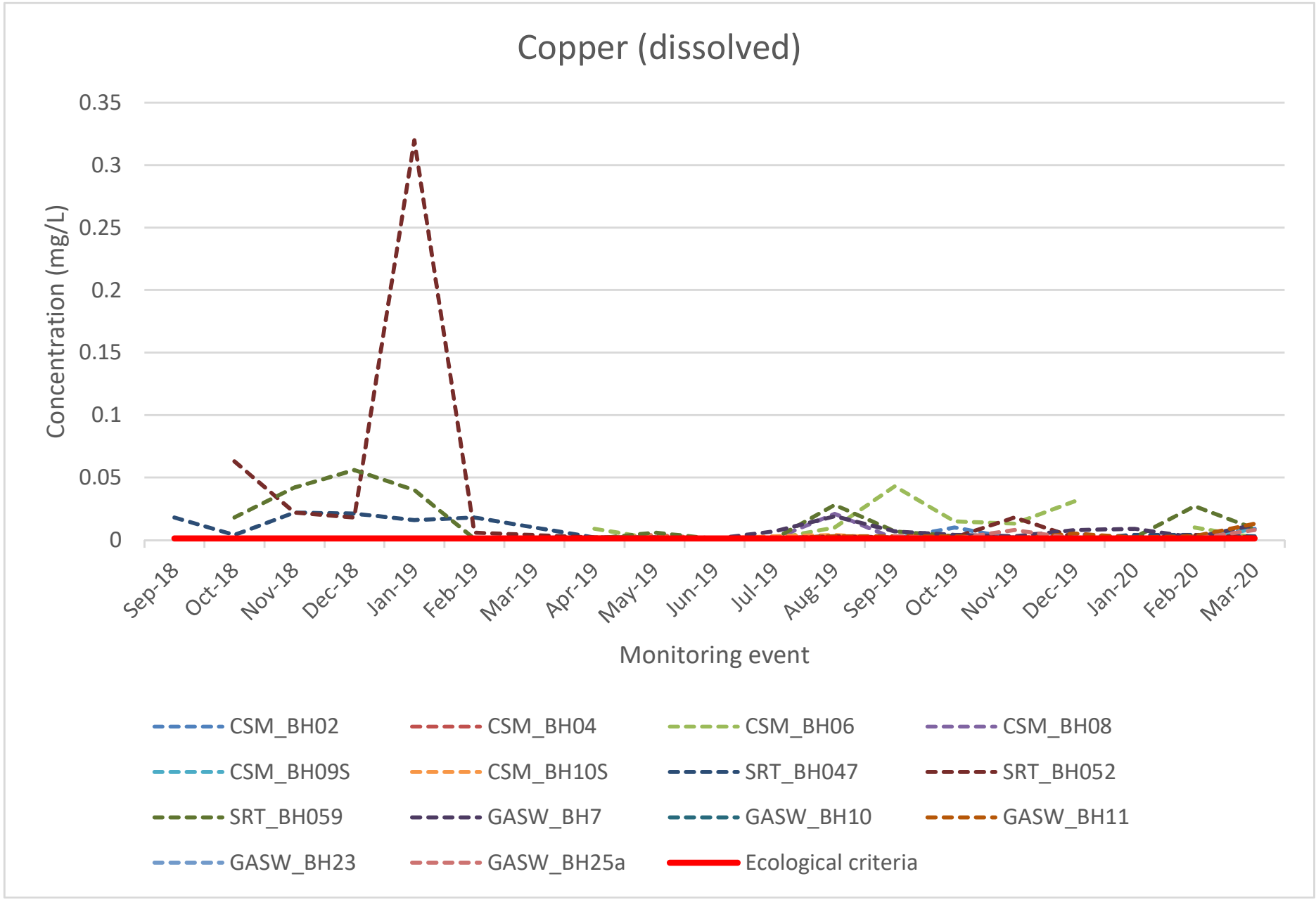

SRT_CBH017 - Groundwater Levels - September 2018 to January 2020
GWL (m AHD)
Rainfall (mm)
20.5
20
19.5
19
18.5
18
100
80
60
40
20
0
1/09/2018 0:00
10/12/2018 0:00
20/03/2019 0:00
28/06/2019 0:00
6/10/2019 0:00
14/01/2020 0:00
GWL SRT_CBH017
Manual GWL SRT_CBH017
Rainfall (mm)

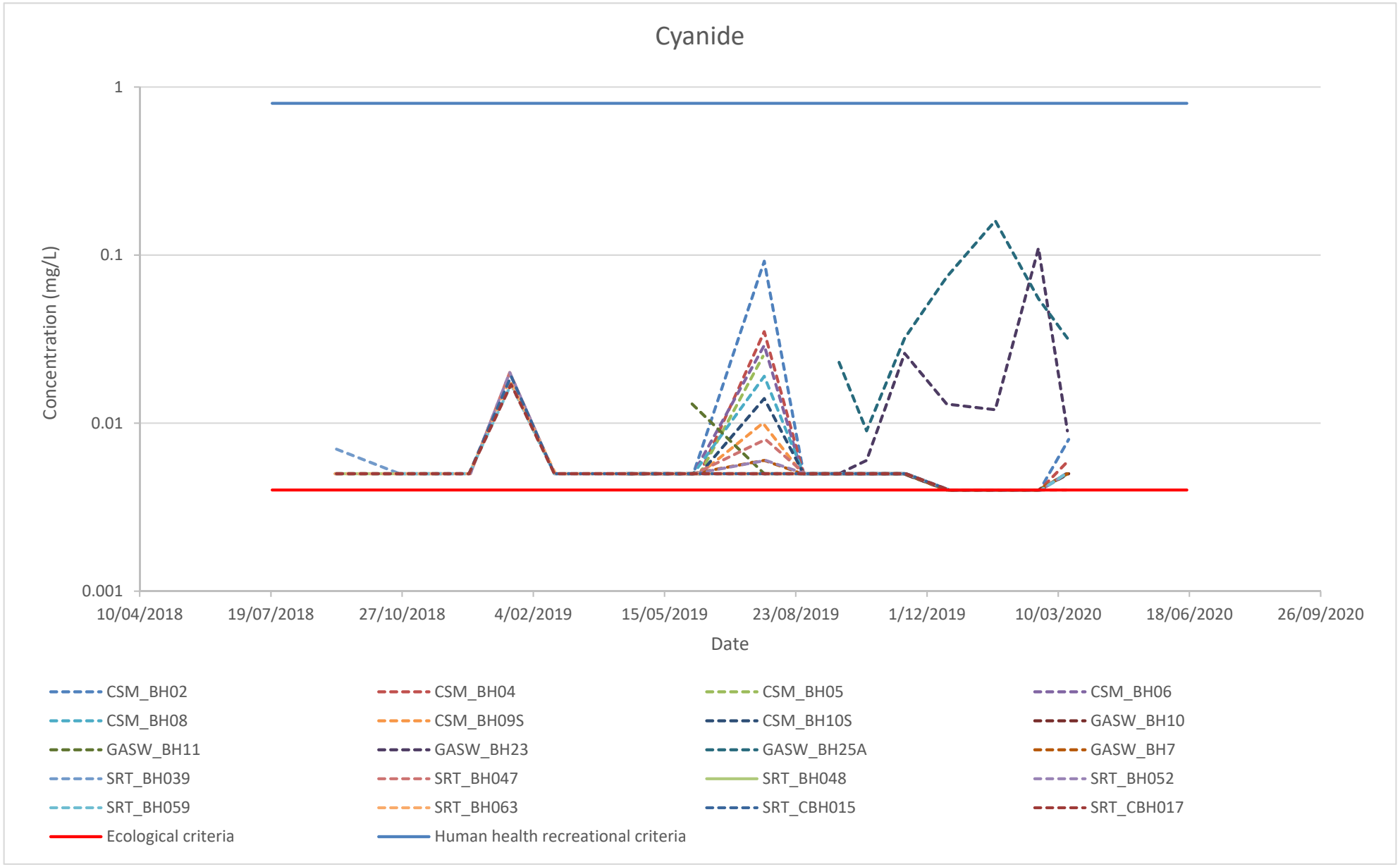

pH (field)
Concentration (mg/L)
12
10
8
6
4
2
0
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Date
CSM_BH02
CSM_BH04
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
SRT_BH047
SRT_BH052
SRT_BH059
GASW_BH7
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25a
Screening Criteria (lower limit)
Screening Criteria (Upper Limit)
Note: The screening criteria is the default trigger value for slightly disturbed estuaries in SE Aus (ANZECC, 2000)

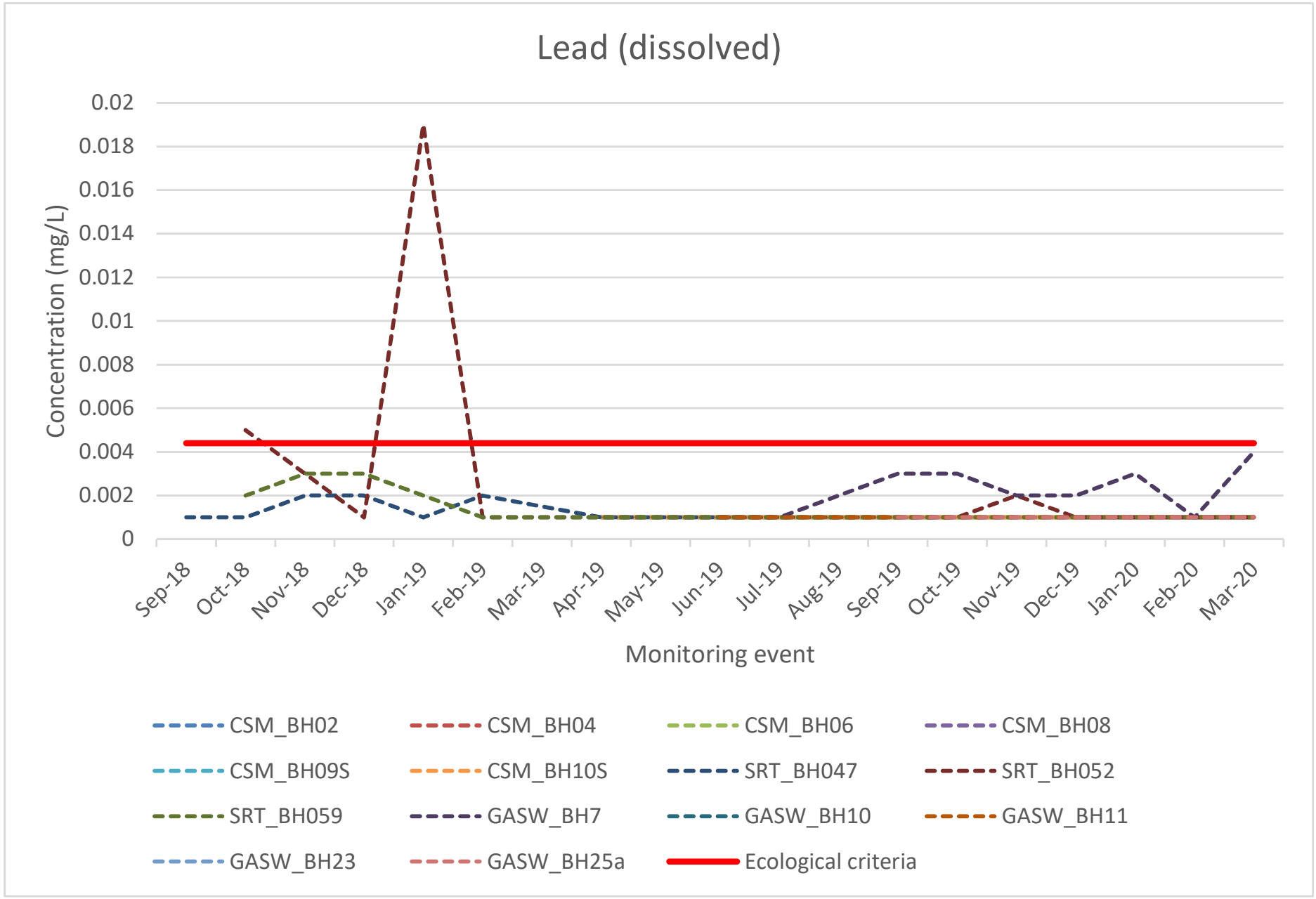

Total Dissolved Solids
1400
1200
1000
800
600
400
200
0
Concentration (mg/L)
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Monitoring event
CSM_BH02
CSM_BH04
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
SRT_BH047
SRT_BH052
SRT_BH059
GASW_BH7
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25a

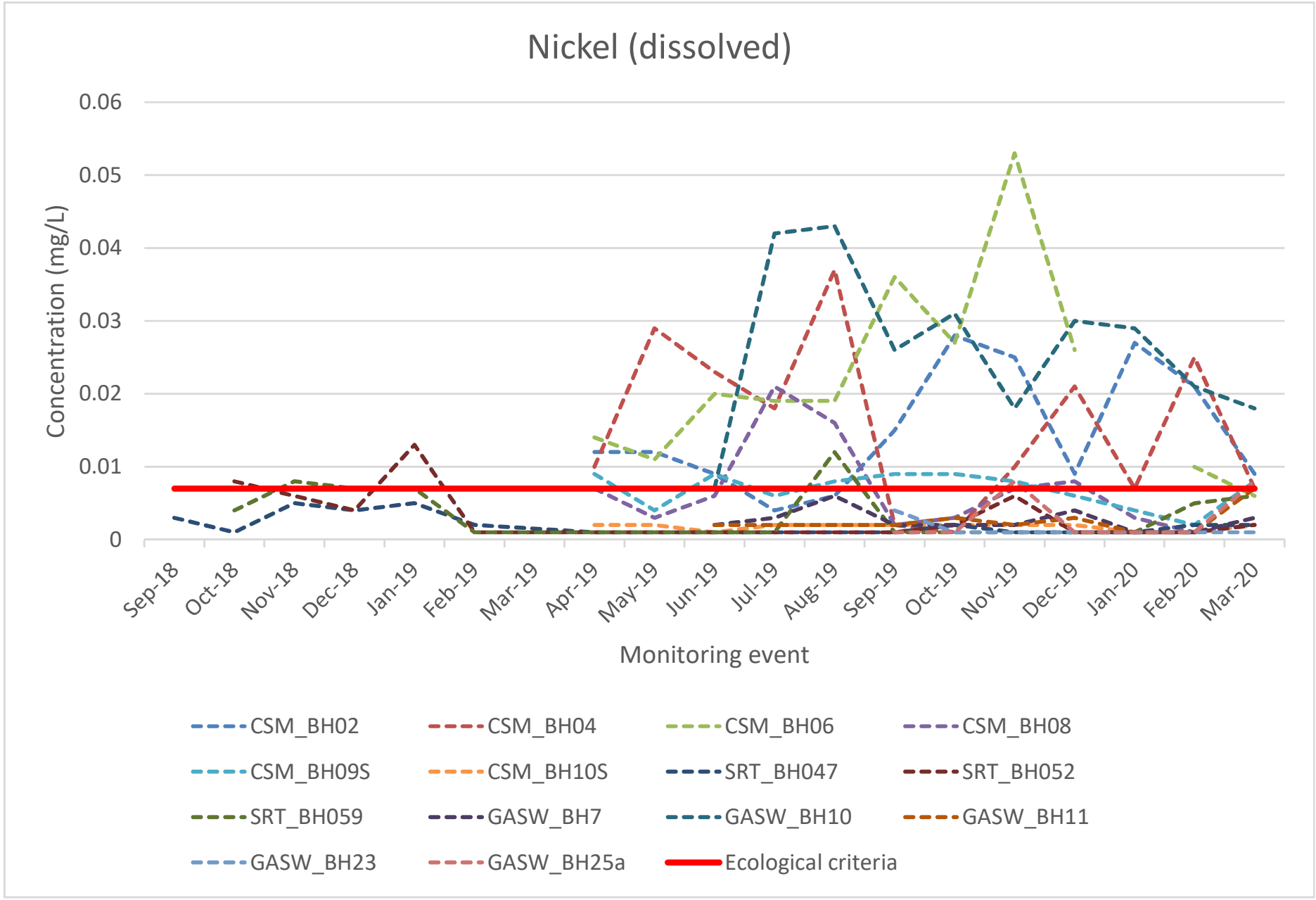

Ammonia
10
1
0.1
0.01
0.001
Concentration (mg/L)
10/04/2018
19/07/2018
27/10/2018
4/02/2019
15/05/2019
23/08/2019
1/12/2019
10/03/2020
18/06/2020
26/09/2020
Date
CSM_BH02
CSM_BH04
CSM_BH05
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25A
GASW_BH7
SRT_BH039
SRT_BH047
SRT_BH048
SRT_BH052
SRT_BH059
SRT_BH063
SRT_CBH015
SRT_CBH017
Ecological criteria

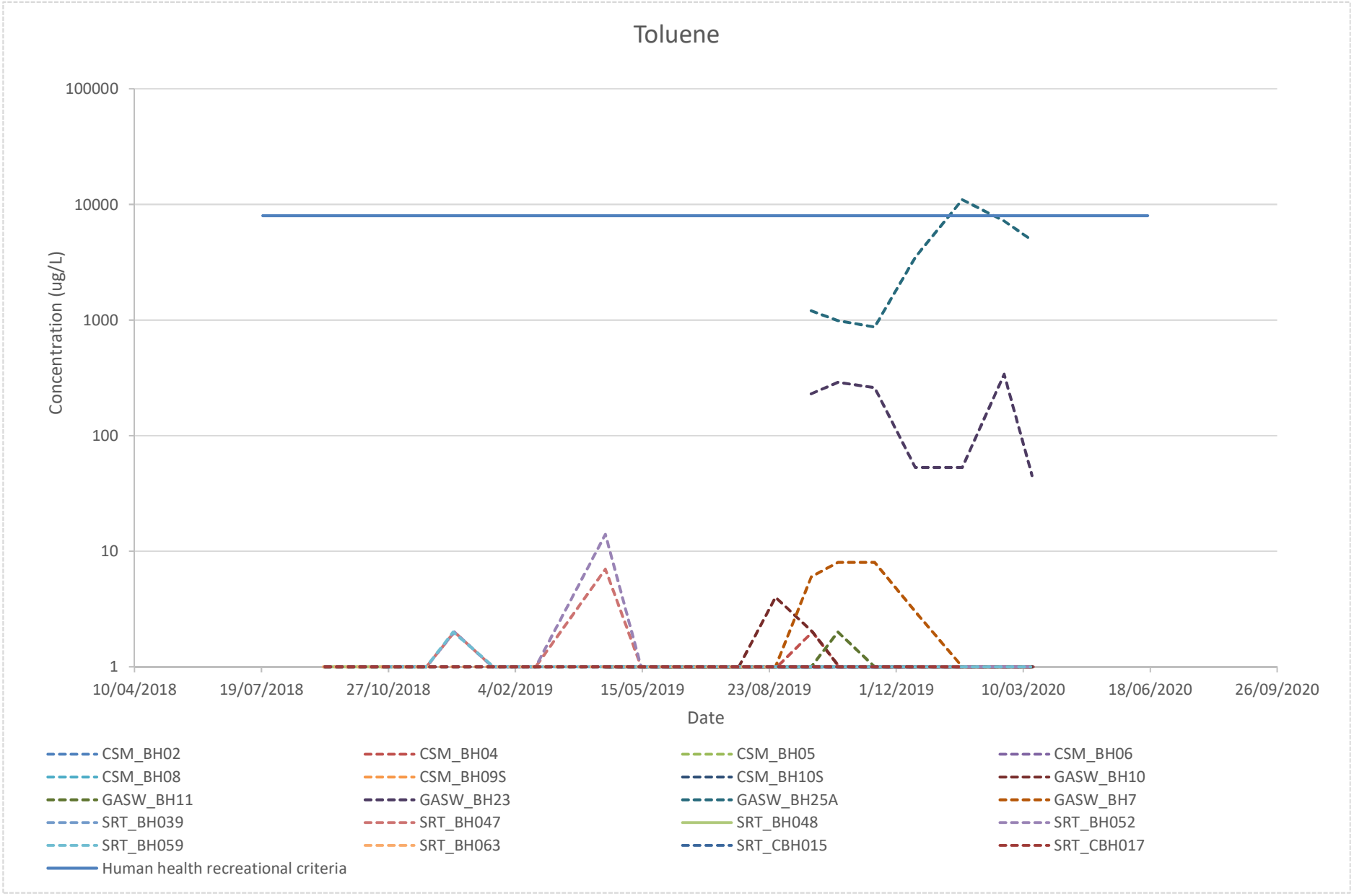

Benzene
100000
10000
1000
100
10
1
0.1
Concentration (ug/L)
10/04/2018
19/07/2018
27/10/2018
4/02/2019
15/05/2019
23/08/2019
1/12/2019
10/03/2020
18/06/2020
26/09/2020
Date
CSM_BH02
CSM_BH04
CSM_BH05
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25A
GASW_BH7
SRT_BH039
SRT_BH047
SRT_BH048
SRT_BH052
SRT_BH059
SRT_BH063
SRT_CBH015
SRT_CBH017
Ecological criteria
Human health recreational criteria
Human health vapour criteria

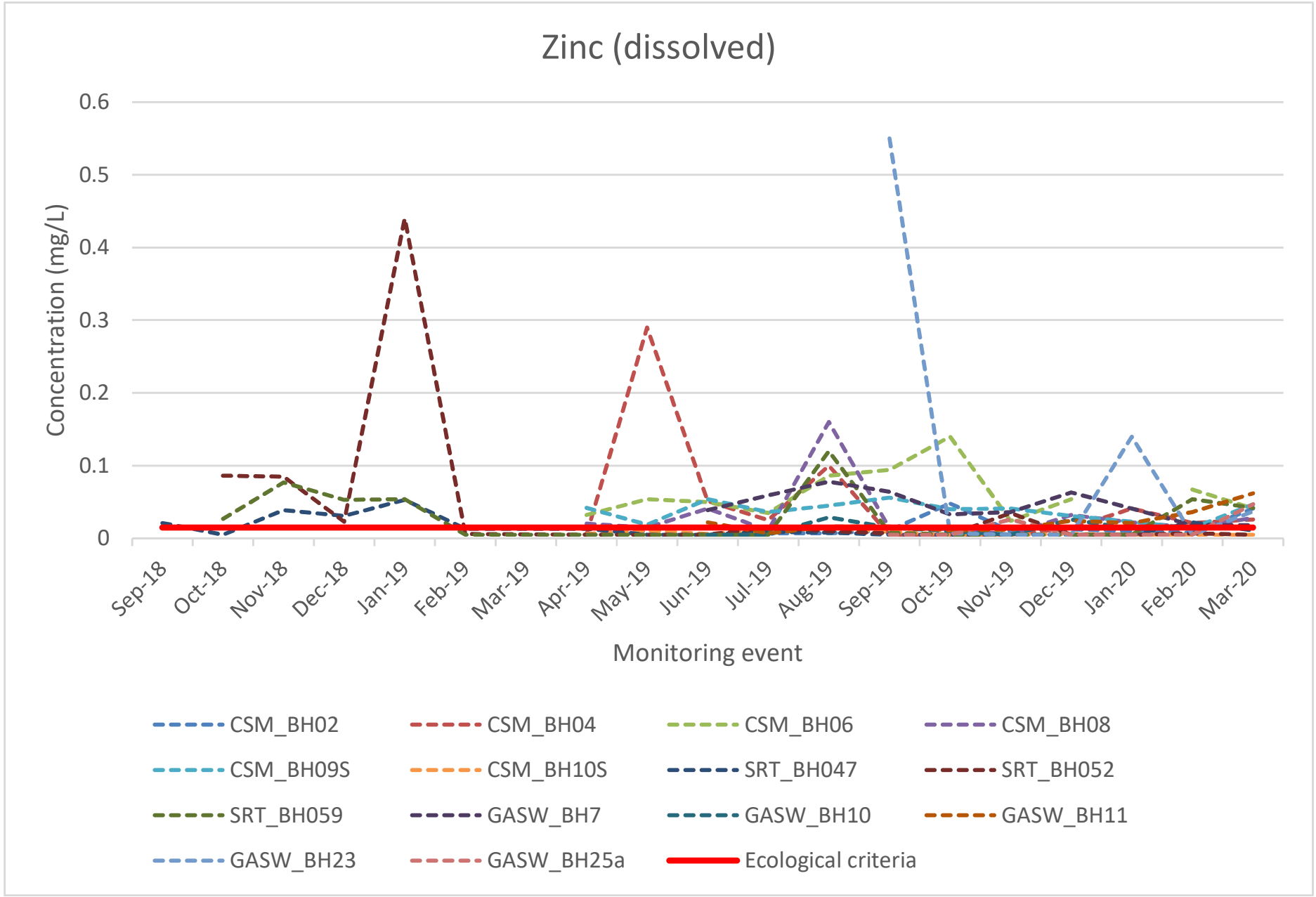

Copper (dissolved)
Concentration (mg/L)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Monitoring event
CSM_BH02
CSM_BH04
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
SRT_BH047
SRT_BH052
SRT_BH059
GASW_BH7
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25a
Ecological criteria


Cyanide
1
0.1
0.01
0.001
Concentration (mg/L)
10/04/2018
19/07/2018
27/10/2018
4/02/2019
15/05/2019
23/08/2019
1/12/2019
10/03/2020
18/06/2020
26/09/2020
Date
CSM_BH02
CSM_BH04
CSM_BH05
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25A
GASW_BH7
SRT_BH039
SRT_BH047
SRT_BH048
SRT_BH052
SRT_BH059
SRT_BH063
SRT_CBH015
SRT_CBH017
Ecological criteria
Human health recreational criteria


Lead (dissolved)
Concentration (mg/L)
0.02
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Monitoring event
CSM_BH02
CSM_BH04
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
SRT_BH047
SRT_BH052
SRT_BH059
GASW_BH7
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25a
Ecological criteria


Nickel (dissolved)
Concentration (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Monitoring event
CSM_BH02
CSM_BH04
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
SRT_BH047
SRT_BH052
SRT_BH059
GASW_BH7
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25a
Ecological criteria


Toluene
100000
10000
1000
100
10
1
Concentration (ug/L)
10/04/2018
19/07/2018
27/10/2018
4/02/2019
15/05/2019
23/08/2019
1/12/2019
10/03/2020
18/06/2020
26/09/2020
Date
CSM_BH02
CSM_BH04
CSM_BH05
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25A
GASW_BH7
SRT_BH039
SRT_BH047
SRT_BH048
SRT_BH052
SRT_BH059
SRT_BH063
SRT_CBH015
SRT_CBH017
Human health recreational criteria


Zinc (dissolved)
Concentration (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Monitoring event
CSM_BH02
CSM_BH04
CSM_BH06
CSM_BH08
CSM_BH09S
CSM_BH10S
SRT_BH047
SRT_BH052
SRT_BH059
GASW_BH7
GASW_BH10
GASW_BH11
GASW_BH23
GASW_BH25a
Ecological criteria

# Appendix E
# Calibration certificates

## Multi Parameter Water Meter

**Instrument** YSI Quatro Pro Plus
**Serial No.** 17K101079

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| **Switch/keypad** | Operation | ✓ | |
| **Display** | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| **Grill Filter** | Condition | ✓ | |
| | Seal | ✓ | |
| **PCB** | Condition | ✓ | |
| **Connectors** | Condition | ✓ | |
| **Sensor** | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| **Alarms** | Beeper | | |
| | Settings | | |
| **Software** | Version | | |
| **Data logger** | Operation | | |
| **Download** | Operation | | |
| **Other tests:** | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 10.00 | | pH 10.00 | | 324189 | pH 9.62 |
| 2. pH 7.00 | | pH 7.00 | | 330737 | pH 7.03 |
| 3. pH 4.00 | | pH 4.00 | | 324985 | pH 4.02 |
| 4. mV | | 234mV | | 325420/325421 | 234.1mV |
| 5. EC | | 2.76mS | | 322349 | 2.75mS |
| 6. D.O | | 0.00ppm | | 329994 | 0.00ppm |
| 7. Temp | | 20.0°C | | MultiTherm | 19.7°C |

***Calibrated by:*** **Sen Philip**

***Calibration date:*** **15/10/2019**

***Next calibration due:*** **14/11/2019**

## Oil / Water Interface Meter

**Instrument** **Geotech Interface Meter (60M)**
**Serial No.** **3963**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Compartment | ✓ | |
| | Capacity | ✓ | |
| | | | |
| | | | |
| **Probe** | Cleaned/Decon. | ✓ | |
| | Operation | ✓ | |
| | | | |
| **Connectors** | Condition | ✓ | |
| | | ✓ | |
| **Tape Check** | Cleaned | ✓ | |
| **Connectors** | Checked for cuts | ✓ | |
| | | | |
| | | | |
| **Instrument Test** | At surface level | ✓ | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been cleaned and tested.

***Calibrated by:*** **Dominic Leo**

***Calibration date:*** **14-Oct-19**

***Next calibration due:*** **14-Dec-19**

**Multi Parameter Water Meter**

**Instrument** **YSI Quatro Pro Plus**
**Serial No.** **18J104330**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| **Switch/keypad** | Operation | ✓ | |
| **Display** | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| **Grill Filter** | Condition | ✓ | |
| | Seal | ✓ | |
| **PCB** | Condition | ✓ | |
| **Connectors** | Condition | ✓ | |
| **Sensor** | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| **Alarms** | Beeper | | |
| | Settings | | |
| **Software** | Version | | |
| **Data logger** | Operation | | |
| **Download** | Operation | | |
| **Other tests:** | | | |

## *Certificate of bump test*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 10.00 | | pH 10.00 | | 324189 | pH 9.74 |
| 2. pH 7.00 | | pH 7.00 | | 320613 | pH 7.26 |
| 3. pH 4.00 | | pH 4.00 | | 330734 | pH 4.10 |
| 4. mV | | 234.0mV | | 338782/337308 | 234.0mV |
| 5. EC | | 2.76mS | | 333787 | 2.74mS |
| 6. D.O | | 0.00ppm | | 329994 | 0.06ppm |
| 7. Temp | | 20.4°C | | MultiTherm | 20.2°C |

***Calibrated by:*** **Sen Phiilp**

***Calibration date:*** **12/11/2019**

***Next calibration due:*** **12/12/2019**

## Oil / Water Interface Meter

**Instrument** Geotech Interface Meter (60M)
**Serial No.** 3953

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| Battery | Compartment | ✓ | |
| | Capacity | ✓ | |
| | | | |
| | | | |
| Probe | Cleaned/Decon. | ✓ | |
| | Operation | ✓ | |
| | | | |
| Connectors | Condition | ✓ | |
| | | ✓ | |
| Tape Check | Cleaned | ✓ | |
| Connectors | Checked for cuts | ✓ | |
| | | | |
| | | | |
| Instrument Test | At surface level | ✓ | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been cleaned and tested.

***Calibrated by:*** **Sen Philip**

***Calibration date:*** **12/11/2019**

***Next calibration due:*** **11/01/2020**

## Oil / Water Interface Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

**Instrument** **Geotech Interface Meter (60m)**
**Serial No.** **3954**

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Compartment | ✓ | |
| | Capacity | ✓ | |
| | | | |
| | | | |
| **Probe** | Cleaned/Decon. | ✓ | |
| | Operation | ✓ | |
| | | | |
| **Connectors** | Condition | ✓ | |
| | | | |
| **Tape Check** | Cleaned | ✓ | |
| **Connectors** | Checked for cuts | ✓ | |
| | | | |
| | | | |
| **Instrument Test** | At surface level | ✓ | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been cleaned and tested.

***Calibrated by:*** **Irisa Yates**

***Calibration date:*** **10-Dec-19**

***Next calibration due:*** **08-Feb-20**

## Multi Parameter Water Meter

**Instrument** **YSI Quatro Pro Plus**
**Serial No.** **18L101819**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| **Switch/keypad** | Operation | ✓ | |
| **Display** | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| **Grill Filter** | Condition | ✓ | |
| | Seal | ✓ | |
| **PCB** | Condition | ✓ | |
| **Connectors** | Condition | ✓ | |
| **Sensor** | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| **Alarms** | Beeper | | |
| | Settings | | |
| **Software** | Version | | |
| **Data logger** | Operation | | |
| **Download** | Operation | | |
| **Other tests:** | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 10.00 | | pH 10.00 | | 330734 | pH 9.68 |
| 2. pH 7.00 | | pH 7.00 | | 320613 | pH 7.00 |
| 3. pH 4.00 | | pH 4.00 | | 330734 | pH 3.96 |
| 4. mV | | 234mV | | 338782/337308 | 233.6mV |
| 5. EC | | 2.76mS | | 333787 | 2.74mS |
| 6. D.O | | 0.00ppm | | 329994 | 0.00ppm |
| 7. Temp | | 20.0°C | | MultiTherm | 19.7°C |

***Calibrated by:*** **Sen Philip**

***Calibration date:*** **12/12/2019**

***Next calibration due:*** **11/01/2020**

## Multi Parameter Water Meter

**Instrument** **YSI Quatro Pro Plus**
**Serial No.** **11K101263**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| Battery | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| Switch/keypad | Operation | ✓ | |
| Display | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| Grill Filter | Condition | ✓ | |
| | Seal | ✓ | |
| PCB | Condition | ✓ | |
| Connectors | Condition | ✓ | |
| Sensor | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| Alarms | Beeper | | |
| | Settings | | |
| Software | Version | | |
| Data logger | Operation | | |
| Download | Operation | | |
| Other tests: | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 7.00 | | pH 7.00 | | 320613 | pH 6.95 |
| 2. pH 4.00 | | pH 4.00 | | 330734 | pH 4.01 |
| 3. pH 10.00 | | pH 10.00 | | 324189 | pH 9.81 |
| 4. mV | | 229.4mV | | 337308/338782 | 229.5mV |
| 5. EC | | 2.76mS | | 333787 | 2.74mS |
| 6. D.O | | 0.00ppm | | 329994 | 0.02ppm |
| 7. Temp | | 22.3°C | | MultiTherm | 22.0°C |

***Calibrated by:*** **Michelle Wagner**

***Calibration date:*** **17/01/2020**

***Next calibration due:*** **16/02/2020**

## Oil / Water Interface Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

**Instrument** Geotech Interface Meter (60M)
**Serial No.** 4439

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Compartment | ✓ | |
| | Capacity | ✓ | |
| | | | |
| | | | |
| **Probe** | Cleaned/Decon. | ✓ | |
| | Operation | ✓ | |
| | | | |
| **Connectors** | Condition | ✓ | |
| | | ✓ | |
| **Tape Check** | Cleaned | ✓ | |
| **Connectors** | Checked for cuts | ✓ | |
| | | | |
| | | | |
| **Instrument Test** | At surface level | ✓ | |
| | | | |
| | | | |
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## *Certificate of Calibration*

This is to certify that the above instrument has been cleaned and tested.

***Calibrated by:*** Darcy Keogh

***Calibration date:*** 16/01/2020

***Next calibration due:*** 16/03/2020

## Multi Parameter Water Meter

**Instrument** YSI Quatro Pro Plus
**Serial No.** 18L101819

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| Battery | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| Switch/keypad | Operation | ✓ | |
| Display | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| Grill Filter | Condition | ✓ | |
| | Seal | ✓ | |
| PCB | Condition | ✓ | |
| Connectors | Condition | ✓ | |
| Sensor | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| Alarms | Beeper | | |
| | Settings | | |
| Software | Version | | |
| Data logger | Operation | | |
| Download | Operation | | |
| Other tests: | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 10.00 | | pH 10.00 | | 324189 | pH 9.85 |
| 2. pH 7.00 | | pH 7.00 | | 330737 | pH 6.99 |
| 3. pH 4.00 | | pH 4.00 | | 330734 | pH 4.04 |
| 4. mV | | 229.6mV | | 338782/337308 | 229.6mV |
| 5. EC | | 2.76mS | | 333787 | 2.75mS |
| 6. D.O | | 0.00ppm | | 329994 | 0.00ppm |
| 7. Temp | | 21.0°C | | MultiTherm | 21.9 |

***Calibrated by:*** Darcy Keogh

***Calibration date:*** 20/02/2020

***Next calibration due:*** 21/03/2020

## Oil / Water Interface Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

**Instrument** **Geotech Interface Meter (60M)**
**Serial No.** **3953**

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Compartment | ✓ | |
| | Capacity | ✓ | |
| | | | |
| | | | |
| **Probe** | Cleaned/Decon. | ✓ | |
| | Operation | ✓ | |
| | | | |
| **Connectors** | Condition | ✓ | |
| | | ✓ | |
| **Tape Check** | Cleaned | ✓ | |
| **Connectors** | Checked for cuts | ✓ | |
| | | | |
| | | | |
| **Instrument Test** | At surface level | ✓ | |
| | | | |
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## *Certificate of Calibration*

This is to certify that the above instrument has been cleaned and tested.

***Calibrated by:*** **Dominic Leo**

***Calibration date:*** **10/02/2020**

***Next calibration due:*** **10/04/2020**

## Oil / Water Interface Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

**Instrument** **Geotech Interface Meter (60M)**
**Serial No.** **4427**

| Item | Test | Pass | Comments |
|---|---|---|---|
| **Battery** | Compartment | ✓ | |
| | Capacity | ✓ | |
| | | | |
| | | | |
| **Probe** | Cleaned/Decon. | ✓ | |
| | Operation | ✓ | |
| | | | |
| **Connectors** | Condition | ✓ | |
| | | ✓ | |
| **Tape Check** | Cleaned | ✓ | |
| **Connectors** | Checked for cuts | ✓ | |
| | | | |
| | | | |
| **Instrument Test** | At surface level | ✓ | |
| | | | |
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## *Certificate of Calibration*

This is to certify that the above instrument has been cleaned and tested.

***Calibrated by:*** **Eloise Carroll**

***Calibration date:*** **13/03/2020**

***Next calibration due:*** **12/05/2020**

## Multi Parameter Water Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Instrument **YSI Quatro Pro Plus**
Serial No. **18L102023**

| Item | Test | Pass | Comments |
|---|---|---|---|
| Battery | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| Switch/keypad | Operation | ✓ | |
| Display | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| Grill Filter | Condition | ✓ | |
| | Seal | ✓ | |
| PCB | Condition | ✓ | |
| Connectors | Condition | ✓ | |
| Sensor | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| Alarms | Beeper | | |
| | Settings | | |
| Software | Version | | |
| Data logger | Operation | | |
| Download | Operation | | |
| Other tests: | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 10.00 | | pH 10.00 | | 349209 | pH 9.50 |
| 2. pH 7.00 | | pH 7.00 | | 330737 | pH 6.96 |
| 3. pH 4.00 | | pH 4.00 | | 330734 | pH 4.08 |
| 4. mV | | 227.4mV | | 338782/337308 | 227.7mV |
| 5. EC | | 2.76mS | | 333787 | 2.74mS |
| 6. D.O | | 0.00ppm | | 329994 | 0.02ppm |
| 7. Temp | | 22.7°C | | MultiTherm | 22.4°C |

*Calibrated by:* **Sarah Lian**

*Calibration date:* **13/03/2020**

*Next calibration due:* **12/04/2020**

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **18L102023**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

| Item | Test | Pass | Comments |
|---|---|---|---|
| Battery | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| Switch/keypad | Operation | ✓ | |
| Display | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| Grill Filter | Condition | ✓ | |
| | Seal | ✓ | |
| PCB | Condition | ✓ | |
| Connectors | Condition | ✓ | |
| Sensor | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| Alarms | Beeper | | |
| | Settings | | |
| Software | Version | | |
| Data logger | Operation | | |
| Download | Operation | | |
| Other tests: | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 10.00 | | pH 10.00 | | 349209 | pH 9.53 |
| 2. pH 7.00 | | pH 7.00 | | 330737 | pH 7.09 |
| 3. pH 4.00 | | pH 4.00 | | 330734 | pH 4.13 |
| 4. mV | | 226.3mV | | 338782/337308 | 226.2mV |
| 5. EC | | 2.76mS | | 333787 | 2.76mS |
| 6. D.O | | 0.00ppm | | 329994 | 0.01ppm |
| 7. Temp | | 23.5°C | | MultiTherm | 23.2°C |

*Calibrated by:* **Sophie Boler**

*Calibration date:* **16/03/2020**

*Next calibration due:* **15/04/2020**

## Multi Parameter Water Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

**Instrument** YSI Quatro Pro Plus
**Serial No.** 11C100763

| Item | Test | Pass | Comments |
|---|---|---|---|
| Battery | Charge Condition | ✓ | |
| | Fuses | ✓ | |
| | Capacity | ✓ | |
| | | | |
| Switch/keypad | Operation | ✓ | |
| Display | Intensity | ✓ | |
| | Operation (segments) | ✓ | |
| Grill Filter | Condition | ✓ | |
| | Seal | ✓ | |
| PCB | Condition | ✓ | |
| Connectors | Condition | ✓ | |
| Sensor | 1. pH | ✓ | |
| | 2. mV | ✓ | |
| | 3. EC | ✓ | |
| | 4. D.O | ✓ | |
| | 5. Temp | ✓ | |
| | | | |
| Alarms | Beeper | | |
| | Settings | | |
| Software | Version | | |
| Data logger | Operation | | |
| Download | Operation | | |
| Other tests: | | | |

## *Certificate of Calibration*

This is to certify that the above instrument has been calibrated to the following specifications:

| Sensor | Serial no | Standard Solutions | Certified | Solution Bottle Number | Instrument Reading |
|---|---|---|---|---|---|
| 1. pH 7.00 | | pH 7.00 | | 330737 | pH 6.99 |
| 2. pH 4.00 | | pH 4.00 | | 330734 | pH 4.04 |
| 3. pH 10.00 | | pH 10.00 | | 324189 | pH 9.83 |
| 3. mV | | 229.6mV | | 338782/337308 | 229.5mV |
| 4. EC | | 2.76 mS | | 333787 | 2.74mS |
| 5. D.O | | 0.00ppm | | 329994 | 0.02ppm |
| 6. Temp | | 22.0°C | | MultiTherm | 21.3°C |

***Calibrated by:*** Darcy Keogh

***Calibration date:*** 17/03/2020

***Next calibration due:*** 16/04/2020

# Appendix F
# Groundwater purging sheets

# Purging and Sampling Record

**Bore ID:** MW-BH01

*Job Information*

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 17/10/19
Round October 2019

*Sampling Information*

Purge Method: QED Micropurge
Sample Method: 4
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 22.5 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

*Bore Information*

SWL: 20.452 m  Logic Check: /
Screen: From: / to: m  Stick Up: / m
NAPL Check: /  Bore Diam.: 50 mm
Ref.datum: /  Well Cap Secure? Yes
Bore Depth: 33.87 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:34 | 1 | 21.01 | 1.24 | 996 | 7.00 | -86.2 | 20.6 | | Grey/brown cloudy, sediments |
| 10:37 | 2 | 21.27 | 1.05 | 994 | 7.01 | -88.3 | 20.5 | | " |
| 10:41 | 3 | 21.30 | 1.05 | 994 | 7.01 | -88.7 | 20.5 | | " |
| 10:44 | 4 | 21.39 | 0.97 | 994 | 7.01 | -89.0 | 20.5 | | " |
| 10:47 | 5 | 21.49 | 0.98 | 995 | 7.00 | -87.5 | 20.5 | | " |

*Field QA Checks:*

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_DH04

**Job Information**
- Client: Laing O'Rouke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / J. Vickers
- Date: 17/10/19
- Round October 2019

**Sampling Information**
- Purge Method: Qtech Micropump
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth:.....m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 21.656 m
- Screen: From:.....to..... m
- NAPL Check:.....
- Ref.datum: .....
- Bore Depth: 34.276 m
- Logic Check: .....
- Stick Up: ..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Ye

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (..ppm..) | Elec.Cond (..µS/cm..) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8.06 | 0.5 | 21.903 | 0.51 | 522 | 6.35 | 231 | 20.9 | | light brown, moderate turbidity, no odour or sheen |
| 8.11 | 1 | 21.977 | 0.50 | 519 | 6.31 | -0.5 | 20.9 | | " " |
| 8.14 | 1.8 | 21.991 | 0.43 | 541 | 6.36 | -19.8 | 20.9 | | " " |
| 8.17 | 2.5 | 22.017 | 0.39 | 580 | 6.49 | -48.6 | 20.9 | | " " |
| 8.20 | 3.4 | 22.027 | 0.35 | 611 | 6.60 | -63.7 | 20.9 | | " " |
| 8.23 | 4.2 | 22.028 | 0.35 | 661 | 6.80 | -88.6 | 20.9 | | changed cycles from 4pm to 3pm minute |
| 8.26 | 5.1 | 22.075 | 0.22 | 717 | 7.16 | -138.7 | 20.9 | | " |
| 8.29 | 6.1 | 22.091 | 0.13 | 753 | 7.95 | -233.0 | 20.9 | | " |
| 8.32 | 7.8 | 22.172 | 0.11 | 805 | 9.20 | -254.4 | 20.9 | | " |
| 8.35 | 8.9 | 22.108 | 0.10 | 825 | 9.43 | -256.6 | 20.9 | | " |
| 8.38 | 9.7 | 22.124 | 0.12 | 844 | 9.56 | -260.2 | 20.9 | | Paras stable - Sampled |
| | | | | | | | | | |
| | | | | | | | | | Note: pH quite high. |
| | | | | | | | | | |
| | | | | | | | | | |

**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

* [QC02]

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM_DH06

**Job Information**
Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 17/10/19
Round October 2019

**Sampling Information**
Purge Method: QED Micropurge
Sample Method: QED Micropurge
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 24.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
SWL: 20.871 m  Logic Check: .....
Screen: From: ..... to ..... m  Stick Up: ..... m
NAPL Check: .....  Bore Diam.: 50 mm
Ref.datum: .....  Well Cap Secure? Yes
Bore Depth: 35.404 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (CWSm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| Stable when (3 consecutive readings): | | stable | +/- 10% | +/- 3% | +/- 0.05 pH | +/- 10 mV | - | | |
| 13.23 | 2 | 20.913 | 2.06 | 974 | ~~2.10~~ 5.90 | 85.0 | 23.8 | | Light grey, slightly turbid, no odour, no sheen |
| 13.26 | 3 | 20.923 | 1.36 | 969 | 6.00 | 74.2 | 23.6 | | Good recharge |
| 13.29 | 4 | 20.926 | 1.23 | 968 | 6.02 | 72.3 | 23.6 | | 〃 |
| 13.32 | 4.75 | 20.921 | 1.20 | 965 | 6.04 | 69.9 | 23.5 | | 〃 |
| 13.35 | 5.5 | 20.921 | 1.19 | 963 | 6.04 | 64.3 | 23.5 | | Paras Stable - Sampled |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | $CO_2$ expired, Purging could not start until spare $CO_2$ tank was collected |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

**Field QA Checks:**
Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

**Purge Volumes**

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH08

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rouke / Sydney Metro | Purge Method: QED Micro purge | SWL: 13.830 m |
| Project: Central Station Main Works | Sample Method: " | Logic Check: |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | Screen: From: to: m |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N Pump Depth: 20.0 m | Stick Up: m |
| Date: 18/10/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | NAPL Check: |
| Round October 2019 | | Ref.datum: |
| | | Bore Depth: 35.03 m |
| | | Bore Diam.: 50 mm |
| | | Well Cap Secure? Yes |

Field Filtered? Y / N (filter vessel, disposable filter/syringe)

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 7:19 | 1 | 13.83 | 1.30 | 517 | 7.54 | -48.2 | 20.8 | | Clear |
| 7:22 | 2 | 13.83 | 1.94 | 530 | 6.73 | -40.0 | 20.8 | | " |
| 7:25 | 3 | 13.83 | 1.87 | 534 | 6.53 | -39.8 | 20.8 | | " |
| 7:28 | 4 | 13.83 | 1.85 | 535 | 6.45 | -39.8 | 20.8 | | " |
| 7:31 | 5 | 13.83 | 0.22 | 535 | 6.42 | -40.4 | 20.8 | | " |
| 7:34 | 6 | 13.83 | 0.22 | 535 | 6.41 | -41.0 | 20.8 | | " |
| 7:37 | 7 | 13.83 | 0.20 | 535 | 6.40 | -42.8 | 20.8 | | " |
| 7:40 | 8 | 13.83 | 0.21 | 535 | 6.40 | -44.1 | 20.8 | | " |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_DH095

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / J. Vickers
- Date: 16/10/19
- Round October 2019

**Sampling Information**
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 6.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 4.057 m  Logic Check: /
- Screen: From: / to: m  Stick Up: m
- NAPL Check: /  Bore Diam.: 50 mm
- Ref.datum:  Well Cap Secure? Yes
- Bore Depth: 6.593 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (..ppm..) | Elec.Cond (C µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 13.11 | 1 | 4.152 | 1.91 | 600 | 5.65 | 152.1 | 19.7 | | clear, no odour / sheen |
| 13.14 | 1.5 | 4.192 | 1.78 | 599 | 5.59 | 153.0 | 19.5 | | " " |
| 13.17 | 2 | 4.322 | 1.70 | 600 | 5.57 | 146.4 | 19.6 | | " " |
| 13.20 | 2.5 | 4.380 | 1.67 | 596 | 5.56 | 142.3 | 19.5 | | Paras stable - Sampled |
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**Field QA Checks:**
- Air bubbles in vials? Y / (N)  Any violent reactions? Y / (N)
- Decontamination as per GHD procedure? (Y) / N
- Was sampling equipment pre-cleaned? (Y) / N
- COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM_BH105

**Job Information**
Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 16/10/19
Round October 2019

**Sampling Information**
Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 9.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
SWL: 4.546 m  Logic Check: /
Screen: From: / to: m  Stick Up: m
NAPL Check: /  Bore Diam.: 50 mm
Ref.datum:  Well Cap Secure? Yes
Bore Depth: 9.828 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (Cuscm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8.13 | 1 | 4.951 | 0.32 | 235.4 | 5.24 | 155.1 | 20.5 | | grey to clear, cloudy, no odour, no sheen |
| 8.16 | 1.5 | 4.941 | 0.28 | 234.7 | 5.27 | 164.1 | 20.5 | | " " |
| 8.19 | 2 | 5.054 | 0.30 | 235.0 | 5.27 | 172.3 | 20.5 | | " " |
| 8.22 | 2.5 | 5.088 | 0.37 | 235.0 | 5.27 | 178.9 | 20.5 | | " |
| 8.25 | 3 | 5.124 | 0.46 | 235.0 | 5.27 | 183.8 | 20.6 | | " |
| 8.28 | 3.75 | 5.151 | 0.52 | 234.5 | 5.27 | 187.3 | 20.5 | | " |
| 8.31 | 4.5 | 5.174 | 0.56 | 234.2 | 5.27 | 191.0 | 20.5 | | " |
| 8.34 | 5.2 | 5.194 | 0.57 | 234.1 | 5.27 | 193.9 | 20.6 | | " |
| | | | | | | | | | Paras stable - Sampled |
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**Field QA Checks:**
Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*[QC1]

**Purge Volumes**

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASV_BH7

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / J. Vickers
- Date: 16/10/19
- Round October 2019

**Sampling Information**
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 6.0 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 3.903 m
- Screen: From: ~~.....~~ to ..... m
- NAPL Check: ~~.....~~
- Ref.datum: ~~.....~~
- Bore Depth: 6.197 m
- Logic Check: .....
- Stick Up: ..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Ye

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (..ppm..) | Elec.Cond (..µS/cm..) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| Stable when (3 consecutive readings): | | stable | +/- 10% | +/- 3% | +/- 0.05 pH | +/- 10 mV | - | | |
| 9.32 | 1 | 4.317 | 0.34 | 427.4 | 4.02 | 290.6 | 19.4 | | clear, no odour, no sheen |
| 9.35 | 1.5 | 4.448 | 0.35 | 428.6 | 4.05 | 301.3 | 19.4 | | " " |
| 9.38 | 2 | 4.566 | 0.30 | 427.9 | 4.04 | 307.2 | 19.4 | | " |
| 9.41 | 2.5 | 4.654 | 0.31 | 428.6 | 4.08 | 305.0 | 19.4 | | " |
| 9.44 | 3 | 4.785 | 0.30 | 427.8 | 4.10 | 304.6 | 19.4 | | " |
| 9.47 | 3.5 | 4.873 | 0.33 | 427.6 | 4.11 | 304.1 | 19.3 | | Paras Stable - Sampled |
| | | | | | | | | | |
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**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

**Purge Volumes**

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH10

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 17/10/19
Round October 2019

**Sampling Information**

Purge Method: QED Micropurge
Sample Method: "
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 23.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 19.408 m
Screen: From:.....to..... m
NAPL Check:.....
Ref.datum:.....
Bore Depth: 25.008 m
Logic Check:.....
Stick Up:..... m
Bore Diam.: 50 mm
Well Cap Secure? Yes

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9:23 | 1 | 20.00 | 0.50 | 1222 | 6.94 | -92.6 | 20.7 | | Grey cloudy. |
| 9:26 | 2 | 20.48 | 0.26 | 1215 | 6.66 | -105.2 | 20.6 | | " |
| 9:29 | 3 | 20.73 | 0.32 | 1217 | 6.62 | -111.2 | 20.6 | | " |
| 9:32 | 4 | 21.03 | 0.28 | 1218 | 6.61 | -113.5 | 20.6 | | " |
| 9:35 | 5 | 21.26 | 0.27 | 1218 | 6.61 | -115.6 | 20.6 | | " |

**Field QA Checks:**

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** ~~MW~~ CASL-DH11

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / J. Vickers
- Date: 16/10/19
- Round October 2019

**Sampling Information**
- Purge Method: Peri
- Sample Method: Bx
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 8.0 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 4.380 m  Logic Check: .....
- Screen: From: ..... to ..... m  Stick Up: ..... m
- NAPL Check: .....  Bore Diam.: 50 mm
- Ref.datum: .....  Well Cap Secure? X
- Bore Depth: 8.05 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10.13 | 1 | 4.826 | 3.30 | 267.0 | 5.25 | 227.7 | 20.7 | | clear, slightly cloudy, no odour / sheen |
| 10.18 | 2 | 4.883 | 2.89 | 266.5 | 5.27 | 223.4 | 20.7 | | " " |
| 10.21 | 2.5 | 4.887 | 3.12 | 267.9 | 5.29 | 216.5 | 20.6 | | " " |
| 10.24 | 3 | 4.913 | 3.15 | 270.5 | 5.31 | 207.0 | 20.6 | | " |
| 10.27 | 3.5 | 4.930 | 3.17 | 274.6 | 5.36 | 191.4 | 20.5 | | " |
| 10.30 | 4 | 4.928 | 3.05 | 282.9 | 5.43 | 175.1 | 20.6 | | " |
| 10.34 | 4.5 | 4.937 | 2.97 | 287.5 | 5.47 | 165.7 | 20.6 | | " |
| 10.37 | 5 | 4.932 | 3.06 | 285.3 | 5.46 | 166.1 | 20.6 | | Paras stable - sampled |
| | | | | | | | | | |
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**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

New toc, Previously stickup but cut to ground level

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW BH23

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / J. Vickers
- Date: 16/10/19
- Round October 2019

**Sampling Information**
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N
- Pump Depth: 3.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 2.685 m
- Logic Check: ✓
- Screen: From: — to — m
- Stick Up: X m
- NAPL Check: —
- Bore Diam.: 50 mm
- Ref.datum: —
- Well Cap Secure? Y
- Bore Depth: 3.915 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:23 | 1 | 2.695 | 0.14 | 838 | 7.69 | -186.3 | 19.7 | | Grey cloudy, hydrocarbon odour. |
| 12:28 | 2 | 2.69 | 0.11 | 834 | 7.46 | -173.4 | 19.6 | | " |
| 12:32 | 3 | 2.69 | 0.09 | 841 | 7.34 | -167.8 | 19.5 | | " |
| 12:36 | 4 | 2.69 | 0.08 | 851 | 7.30 | -165.5 | 19.6 | | " |
| 12:40 | 5 | 2.69 | 0.07 | 864 | 7.25 | -162.8 | 19.6 | | " |
| 12:40 | 6 | 2.69 | 0.07 | 867 | 7.23 | -162.0 | 19.6 | | " |

**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH25A

**Job Information**
Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 16/10/19
Round October 2019

**Sampling Information**
Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
SWL: 1.342 m  Logic Check: .....
Screen: From:.....to..... m  Stick Up: ..... m
NAPL Check:.....  Bore Diam.: 50 mm
Ref.datum: .....  Well Cap Secure?.....Y.....
Bore Depth: 2.946 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10.56 | 1 | 1.383 | 0.10 | 338.5 | 9.59 | -10.7 | 19.1 | | dark grey, hydrocarbon odour, no sheen |
| 10.59 | 1.7 | 1.391 | 0.08 | 457.1 | 9.32 | -53.9 | 19.1 | | Good recharge |
| 11.02 | 2.3 | 1.394 | 0.06 | 468.1 | 9.25 | -80.4 | 19.2 | | " " |
| 11.05 | 3 | 1.394 | 0.09 | 472.9 | 9.19 | -109.4 | 19.0 | | " " |
| 11.08 | 3.6 | 1.396 | 0.04 | 472.6 | 9.07 | -152.8 | 19.1 | | " " |
| 11.11 | 4.2 | 1.401 | 0.04 | 472.8 | 9.00 | -187.9 | 19.2 | | " " |
| 11.14 | 4.8 | 1.403 | 0.03 | 467.1 | 8.89 | -236.8 | 19.2 | | " " |
| 11.17 | 5.5 | 1.404 | 0.03 | 461.8 | 8.86 | -261.8 | 19.3 | | " " |
| 11.20 | 6.2 | 1.406 | 0.03 | 458.8 | 8.80 | -269.4 | 19.2 | | " " |
| 11.23 | 7 | 1.408 | 0.03 | 459.9 | 8.74 | -272.8 | 19.2 | | Paras stable - Sampled |
| | | | | | | | | | |
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**Field QA Checks:**
Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

ToC has changed, used to be stickup, but cut to ground level

**Purge Volumes**

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH047

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 18/10/19
Round October 2019

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 4.333 m
Screen: From:—to— m
NAPL Check:—
Ref.datum: —
Bore Depth: 6.940 m
Logic Check: ✓
Stick Up: — m
Bore Diam.: 50 mm
Well Cap Secure?: ✓

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (..%.....) | Elec.Cond (..µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9.49 | 1 | 4.92 | 1.60 | 414.8 | 7.70 | 99.7 | 19.5 | | brown, highly turbid, no sheen/odour |
| 9.52 | 1.5 | 5.11 | 1.49 | 414.7 | 7.72 | 97.9 | 19.5 | | " |
| 9.55 | 2 | 5.237 | 1.44 | 415.0 | 7.73 | 96.5 | 19.5 | | Paras stable - Sampled |
| | | | | | | | | | |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH052

*Job Information*

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 18/10/19
Round October 2019

*Sampling Information*

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 7.5 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

*Bore Information*

SWL: 6.162 m
Screen: From:.....to..... m
NAPL Check:.....
Ref.datum:.....
Bore Depth: 7.920 m
Logic Check:.....
Stick Up:..... m
Bore Diam.: 50 mm
Well Cap Secure? Ye

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9.01 | 0.5 | 6.594 | 5.34 | 273.6 | 6.27 | 121.9 | 19.6 | | clear, no odour, no sheen |
| 9.04 | 1 | 6.771 | 5.36 | 281.8 | 6.33 | 123.3 | 19.6 | | " |
| 9.12 | 1.5 | 7.008 | 4.82 | 385.3 | 7.69 | 94.3 | 19.6 | | Paused purging to lower tubing |
| 9.15 | 2 | 7.246 | 5.02 | 378.0 | 7.52 | 106.7 | 19.6 | | |
| | | | | | | | | | limited water left, sampled |
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*Field QA Checks:*

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT-BH059

**Job Information**

Client: Laing O'Rouke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 18/10/19
Round October 2019

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 3.082 m Logic Check: –
Screen: From:–to– m Stick Up: – m
NAPL Check:– Bore Diam.: 50 mm
Ref.datum: – Well Cap Secure?: Y
Bore Depth: 6.00 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (C us/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10.42 | 0.5 | 3.470 | 3.85 | 348.0 | 7.12 | 121.5 | 19.4 | | clear, no odour, no sheen |
| 10.45 | 1 | 3.607 | 3.86 | 341.2 | 7.09 | 121.1 | 19.3 | | " |
| 10.48 | 1.5 | 3.760 | 3.97 | 347.6 | 7.09 | 120.4 | 19.3 | | " |
| 10.51 | 2 | 3.845 | 3.93 | 347.8 | 7.08 | 120.0 | 19.3 | | Paras stable - Sampled |

**Field QA Checks:**

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_CBH015

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / J. Vickers
- Date: 18/10/19
- Round October 2019

**Sampling Information**
- Purge Method: Pump
- Sample Method: Pump
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 5.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 4.180 m — Logic Check: /
- Screen: From: ..... to ..... m — Stick Up: / m
- NAPL Check: ..... — Bore Diam.: 50 mm
- Ref.datum: ..... — Well Cap Secure? Yes
- Bore Depth: 5.91 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:32 | 1 | 4.38 | 1.72 | 195.8 | 5.29 | 194.8 | 20.3 | | Cloudy |
| 12.36 | 1.5 | 4.468 | 1.79 | 194.8 | 5.25 | 194.9 | 20.4 | | " |
| 12.39 | 2.0 | 4.514 | 2.09 | 194.6 | 5.23 | 206.1 | 20.3 | | " |
| 12.42 | 3 | 4.565 | 1.79 | 194.1 | 5.22 | 209.3 | 20.3 | | " |
| 12.45 | 3.7 | 4.622 | 0.83 | 195.4 | 5.15 | 195.1 | 20.3 | | " |
| 12.48 | 4.4 | 4.685 | 0.52 | 189.1 | 5.12 | 218.8 | 20.3 | | " |
| 12:51 | 5.5 | 4.73 | 0.56 | 188.2 | 5.15 | 219.6 | 20.4 | | " |
| 12.55 | 6.5 | 4.785 | 0.68 | 187.0 | 5.20 | 218.7 | 20.3 | | " |
| 12:58 | 7.5 | 4.835 | 0.75 | 185.8 | 5.20 | 219.9 | 20.3 | | Paras Stable - Sampled |
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**Field QA Checks:**
Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters / Preservatives | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SQ1-CBH017

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / J. Vickers
- Date: 18/10/19
- Round October 2019

**Sampling Information**
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 4.8 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 3.220 m  Logic Check: —
- Screen: From: — to — m  Stick Up: — m
- NAPL Check: —  Bore Diam.: 50 mm
- Ref.datum: —  Well Cap Secure? Y
- Bore Depth: 4.937 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11.32 | 1.5 | 3.711 | 1.56 | 230.3 | 6.17 | 149.9 | 20.2 | | Clear, no odour, no sheen |
| 11.36 | 2.1 | 3.871 | 1.65 | 219.0 | 6.16 | 152.5 | 20.2 | | " |
| 11.39 | 2.7 | 3.962 | 1.22 | 220.0 | 6.07 | 154.2 | 20.2 | | " |
| 11.42 | 3.3 | 4.033 | 1.17 | 220.8 | 6.07 | 153.1 | 20.3 | | " |
| 11.45 | 4 | 4.132 | 1.10 | 219.4 | 6.03 | 155.0 | 20.2 | | Paras stable - Sampled |
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**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM - BH07

| Job Information | | Sampling Information | | Bore Information | |
|---|---|---|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | | Purge Method: Micropurge | | SWL: 20.342 m | Logic Check: - |
| Project: Central Station Main Works | | Sample Method: " " | | Screen: From: - to: - m | Stick Up: - m |
| Proj. No.: 21-27234 | | WQ Meter Type: YSI | | NAPL Check: - | Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | | Flow Cell: Y / N | Pump Depth: 24 m | Ref.datum: - | Well Cap Secure? Y |
| Date: 13/11/19 | | WLevel Meter Type: | Dip / Fox / Int.Fce / Gge | Bore Depth: 33.65 m | |
| Round November 2019 | | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | | | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 2:05 | 1 | 20.63 | 0.75 | 1025 | 6.91 | -79.9 | 21.3 | | cloudy, light brown, no odour, no sheen |
| 2:09 | 2 | 20.74 | 0.59 | 1019 | 6.85 | -84.7 | 21.1 | | " " |
| 2:13 | 3 | 20.89 | 0.33 | 1015 | 6.87 | -89.3 | 20.9 | | " " |
| 2:18 | 4 | 21.01 | 0.23 | 1012 | 6.89 | -92.6 | 20.8 | | " " |
| 2:23 | 5 | 21.13 | 0.19 | 1008 | 6.88 | -94.0 | 20.7 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM-BH04

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge | SWL: 21.210 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Micropurge | Screen: From:.....to..... m — Stick Up: - m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth:.....m | Ref.datum: ..... — Well Cap Secure?: Y |
| Date: 13/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 34.37 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

1AS bottle switch

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:22 | 1 | 21.43 | 0.59 | 429.0 | 5.83 | 91.3 | 21.6 | | cloudy, brown, no odour, no sheen |
| 10:30 | 2 | 21.29 | 0.45 | 439.1 | 5.82 | 78.7 | 23.0 | | " " " |
| 10:39 | 3 | 21.32 | 0.88 | 437.1 | 5.87 | 74.1 | 22.4 | | " " " |
| 10:45 | 4 | 21.36 | 0.53 | 501 | 6.02 | 30.0 | 22.1 | | clear - cloudy, no colour, no odour, no sheen |
| 10:51 | 5 | 21.38 | 0.44 | 539 | 6.10 | -4.3 | 22.3 | | " " " |
| 10:57 | 6 | 21.40 | 0.38 | 570 | 6.20 | -31.8 | 22.2 | | " " " |
| 11:02 | 7 | 21.44 | 0.33 | 601 | 6.29 | -52.7 | 22.2 | | " " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

QC01 taken

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM-BH06

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge | SWL: 20.825 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Micropurge | Screen: From: - to: - m — Stick Up: - m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 23.5 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 13/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 35.39 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | brown tint, |
| 9:17 | 1 | 20.85 | 0.58 | 968 | 6.27 | 50.8 | 22.5 | | clean, ~~no odour~~, no odour, no sheen |
| 9:21 | 2 | 20.86 | 0.37 | 968 | 6.22 | 48.3 | 22.6 | | " " |
| 9:24 | 3 | 20.87 | 0.38 | 965 | 6.19 | 46.6 | 22.6 | | " " |
| 9:28 | 4 | 20.87 | 0.42 | 964 | 6.17 | 44.1 | 22.5 | | " " |
| 9:32 | 5 | 20.85 | 0.46 | 965 | 6.16 | 42.1 | 22.6 | | " " |
| 9:37 | 6 | 20.85 | 0.47 | 971 | 6.16 | 40.8 | 23.0 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM-DH08

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: QED Micropurge | SWL: 13.755 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: " | Screen: From:.....to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 20.0 m | Ref.datum: ..... — Well Cap Secure? Yes |
| Date: 13/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 33.23 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 7:45 | 1 | 13.77 | [redacted] | 459.9 | 9.61 | 127.4 | 20.8 | | clear, no colour, no odour, no sheen |
| 7:49 | 2 | 13.78 | 1.65 | 502 | 7.75 | -20.7 | 20.9 | | " " |
| 7:51 | 3 | 13.78 | 0.29 | 516 | 7.24 | -24.8 | 21.0 | | " " |
| 17:55 | 4 | 13.78 | 0.20 | 520 | 6.90 | -26.4 | 20.9 | | " " |
| 7:59 | 5 | 13.77 | 0.20 | 520 | 6.69 | -27.9 | 20.9 | | " " |
| 8:02 | 6 | 13.78 | 0.17 | 520 | 6.55 | -28.4 | 20.9 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM_BH09S

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.215 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: | Screen: From: - to: - m — Stick Up: - m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 6.4 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 14/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.59 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm....) | Elec.Cond (uS/cm.) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | w. red tint |
| 9:23 | 1 | 4.48 | 1.36 | 550 | 5.41 | 204.6 | 19.4 | | clean, ~~no~~, no odour, no sheen |
| 9:27 | 2 | 4.62 | 1.21 | 551 | 5.45 | 203.4 | 19.3 | | " " |
| 9:32 | 3 | 4.75 | 0.77 | 559 | 5.48 | 145.3 | 19.4 | | " " |
| 9:37 | 4 | 4.83 | 0.58 | 570 | 5.59 | 110.8 | 19.3 | | " " |
| 9:41 | 5 | 4.91 | 0.64 | 574 | 5.64 | 100.4 | 19.3 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM_RH105

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri " " | SWL: 4.795 m — Logic Check: — |
| Project: Central Station Main Works | Sample Method: | Screen: From: — to — m — Stick Up: — m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 9.5 m | Ref.datum: — — Well Cap Secure? — |
| Date: 14/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 9.82 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:11 | 1 | 5.05 | 0.31 | 234.0 | 6.21 | 193.9 | 20.6 | | clear, no colour, no odour, no sheen |
| 8:16 | 2 | 5.13 | 0.25 | 233.2 | 5.69 | 205.8 | 20.7 | | " " |
| 8:23 | 3 | 5.20 | 0.37 | 229.8 | 5.49 | 212.6 | 20.7 | | " " |
| 8:28 | 4 | 5.24 | 0.53 | 230.2 | 5.40 | 217.9 | 20.8 | | " " |
| 8:33 | 5 | 5.27 | 0.61 | 229.5 | 5.33 | 220.4 | 20.8 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N

Decontamination as per GHD procedure? Y / N

Was sampling equipment pre-cleaned? Y / N

COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Q102

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CASW_BH7

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rouke / Sydney Metro | Purge Method: Peri | SWL: 3.970 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: " " | Screen: From: - to: - m — Stick Up: - m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 6.0 m | Ref.datum: - — Well Cap Secure?: Y |
| Date: 14/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.17 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (mS/cm.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | *-* | | |
| 10:04 | 1 | 4.25 | 0.23 | 419.3 | 4.58 | 231.4 | 20.8 | | clear, no colour, no odour, no sheen |
| 10:08 | 2 | 4.41 | 0.71 | 425.6 | 4.31 | 294.2 | 20.8 | | " " |
| 10:12 | 3 | 4.61 | 0.86 | 429.8 | 4.36 | 296.1 | 20.9 | | " " |
| 10:16 | 4 | 4.75 | 0.69 | 432.0 | 4.36 | 282.9 | 21.2 | | " " |
| 10:20 | 5 | 4.90 | 0.58 | 432.4 | 4.36 | 274.2 | 21.1 | | " " |
| | | | | | | | | | *Cyanide Bottle turned light green colour when sampled. |

*Field QA Checks:*

Air bubbles in vials? Y / N — Any violent reactions? Y / N *

Decontamination as per GHD procedure? Y / N

Was sampling equipment pre-cleaned? Y / N

COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** GASW-BH10

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rouke / Sydney Metro | Purge Method: Micropurge | SWL: 19.396 m — Logic Check: — |
| Project: Central Station Main Works | Sample Method: " " | Screen: From: — to: — m — Stick Up: — m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 22 m | Ref.datum: — — Well Cap Secure? Y |
| Date: 13/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 24.99 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | / slightly cloudy |
| 12:38 | 1 | 19.89 | 0.78 | 1316 | 6.55 | -102.5 | 21.9 | | clean, no odour, mild H2S odour, no sheen |
| 12:42 | 2 | 20.25 | 0.37 | 1296 | 6.29 | -102.6 | 21.3 | | " " |
| 12:46 | 3 | 20.80 | 0.33 | 1288 | 6.31 | -111.3 | 21.2 | | " " |
| 12:52 | 4 | 21.35 | 0.28 | 1284 | 6.36 | -120.2 | 21.0 | | " " |
| 12:56 | 5 | 21.77 | 0.31 | 1285 | 6.39 | -124.1 | 21.0 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CASW – BH11

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Pei " " | SWL: 4.570 m — Logic Check: – |
| Project: Central Station Main Works | Sample Method: | Screen: From:.....to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 7.8 m | Ref.datum: ..... — Well Cap Secure? Y |
| Date: 14/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 8.050 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:44 | 1 | 4.92 | 0.35 | 271.1 | 5.18 | 188.3 | 21.5 | | cloudy, red tint, no odour, no sheen |
| 10:48 | 2 | 5.09 | 0.26 | 268.1 | 5.19 | 183.3 | 21.3 | | " " |
| 10:52 | 3 | 5:10 | 0.22 | 267.5 | 5.22 | 182.7 | 21.4 | | " " |
| 10:58 | 4 | 5:13 | 0.34 | 270.4 | 5.27 | 173.8 | 21.4 | | clear/cloudy, no colour, no odour, no sheen |
| 11:04 | 5 | 5:18 | 0.48 | 281.2 | 5.38 | 152.8 | 21.2 | | " " |
| 11:10 | 6 | 5:18 | 0.54 | 289.1 | 5.46 | 138.3 | 21.3 | | " " |
| 11:14 | 7 | 5:19 | 0.61 | 293.8 | 5.52 | 139.8 | 21.3 | | " " |
| 11:18 | 8 | 5:21 | 0.61 | 297.3 | 5.52 | 135.1 | 21.4 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N — Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CASW_BH23

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri Peri | SWL: 2.698 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: | Screen: From: - to: - m — Stick Up: - m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 3.8 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 14/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 3.92 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 1:10 | 1 | 2.70 | 0.15 | 872 | 7.81 | -182.7 | 21.5 | | Grey, turbid, hydrocarbon odour, sheen present |
| 1:14 | 2 | 2.70 | 0.12 | 892 | 7.67 | -182.0 | 21.6 | | " " |
| 1:18 | 3 | 2.72 | 0.24 | 911 | 7.58 | -182.3 | 21.6 | | clear, hydrocarbon odour, sheen present |
| 1:22 | 4 | 2.72 | 0.05 | 929 | 7.47 | -182.3 | 21.5 | | " " |
| 1:26 | 5 | 2.72 | 0.05 | 942 | 7.40 | -181.7 | 21.4 | | " " |
| 1:31 | 6 | 2.72 | 0.04 | 949 | 7.33 | -181.9 | 21.5 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N — Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** GASW - BH25A

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 1.360 m — Logic Check: – |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: – to: – m — Stick Up: – m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: – — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: ..... m | Ref.datum: – — Well Cap Secure? T |
| Date: 19/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 2.95 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:19 | 1 | 1.39 | 0.13 | 410.4 | 9.09 | -100.5 | 21.5 | | cloudy, no colour, hydrocarbon / tar odour, no sheen |
| 12:23 | 2 | 1.39 | 0.16 | 429.0 | 9.34 | -125.2 | 21.7 | | clear, no colour, hydrocarbon/tar odour, no sheen |
| 12:27 | 3 | 1.40 | 0.18 | 479.6 | 9.20 | -133.1 | 21.7 | | " " |
| 12:31 | 4 | 1.40 | 0.05 | 543 | 9.03 | -149.4 | 21.8 | | " " |
| 12:35 | 5 | 1.40 | 0.06 | 559 | 8.89 | -160.7 | 21.8 | | " " |
| 12:39 | 6 | 1.40 | 0.02 | 558 | 8.78 | -209.2 | 21.8 | | " " |
| 12:43 | 7 | 1.41 | 0.05 | 554 | 8.68 | -239.0 | 21.7 | | " " |
| 12:47 | 8 | 1.41 | 0.01 | 552 | 8.55 | -269.0 | 21.7 | | " " |
| 12:51 | 9 | 1.42 | 0.02 | 551 | 8.50 | -278.0 | 22.0 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH047

| Job Information | | Sampling Information | | Bore Information | |
|---|---|---|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | | Purge Method: Peri | | SWL: 5.022 m | Logic Check: - |
| Project: Central Station Main Works | | Sample Method: Peri | | Screen: From: - to: - m | Stick Up: - m |
| Proj. No.: 21-27234 | | WQ Meter Type: YSI | | NAPL Check: - | Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | | Flow Cell: Y / N | Pump Depth: 6.8 m | Ref.datum: - | Well Cap Secure? Y |
| Date: 15/11/19 | | WLevel Meter Type: | Dip / Fox / Int.Fce / Gge | Bore Depth: 6.95 m | |
| Round November 2019 | | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | | | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9:18 | 1 | 5:42 | 1.66 | 424.7 | 7.71 | 130.5 | 20.4 | | cloudy, light grey, no odour, no sheen |
| 9:25 | 2 | 5:89 | 1.20 | 424.7 | 7.76 | 127.4 | 20.3 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Sampled before stabilising due to low water

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_RH052

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rouke / Sydney Metro | Purge Method: Peri | SWL: 6.265 m — Logic Check: – |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: – to: – m — Stick Up: – m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: – — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 7.8 m | Ref.datum: – — Well Cap Secure? T |
| Date: 15/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 7.93 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (mS/cm...) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:46 | 1 | 6.38 | 4.65 | 384.1 | 8.21 | 129.1 | 20.1 | | clear/cloudy, no odour, no sheen |
| 8:52 | 2 | 7.13 | 3.72 | 369.2 | 7.58 | 138.2 | 20.1 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N — Any violent reactions? Y / N

Decontamination as per GHD procedure? Y / N

Was sampling equipment pre-cleaned? Y / N

COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Sampled before stabilising due to low water.

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** SRT_MH059

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rouke / Sydney Metro | Purge Method: Pei | SWL: 4.143 m — Logic Check: ..... |
| Project: Central Station Main Works | Sample Method: Pei | Screen: From:.....to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 5.8 m | Ref.datum: ..... — Well Cap Secure?: Y |
| Date: 15/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.00 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:57 | 1 | 4.52 | 4.85 | 363.4 | 6.93 | 160.0 | 20.5 | | clear, no colour, no odour, no sheen |
| 11:04 | 2 | 4.87 | 4.70 | 362.8 | 6.93 | 160.6 | 20.4 | | " " " |
| 11:10 | 3 | 5.08 | 4.59 | 362.6 | 6.94 | 160.4 | 20.5 | | " " " |
| 11:14 | 4 | 5.30 | 4.41 | 362.8 | 6.93 | 160.6 | 20.5 | | " " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_CBH015

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.300 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: - to: - m — Stick Up: - m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 5.8 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 15/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 5.92 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:48 | 1 | 4.47 | 0.44 | 204.0 | 5.77 | 214.7 | 21.0 | | cloudy brown, no odour, no sheen |
| 11:53 | 2 | 4.57 | 0.37 | 191.8 | 5.36 | 255.5 | 20.8 | | clear, no colour, no odour, no sheen |
| 11:57 | 3 | 4.65 | 0.63 | 189.7 | 5.23 | 265.0 | 20.7 | | " " |
| 12:02 | 4 | 4.72 | 0.73 | 188.7 | 5.15 | 271.3 | 20.7 | | " " |
| 12:06 | 5 | 4.77 | 0.91 | 187.9 | 5.17 | 269.4 | 20.9 | | " " |
| 12:10 | 6 | 4.83 | 01.03 | 188.2 | 5.17 | 272.0 | 20.8 | | |

*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** SRT-GSHO17

| *Job Information* | *Sampling Information* | *Bore Information* |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 3.291 m — Logic Check: ..... |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 4.8 m | Ref.datum: ..... — Well Cap Secure? Y |
| Date: 15/11/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 4.99 m |
| Round November 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (uS/cm.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | *-* | | |
| 10:02 | 1 | 3.47 | 0.55 | 258.2 | 6.95 | 151.9 | 20.8 | C | clear, no colour, no odour, no sheen |
| 10:07 | 2 | 3.62 | 0.54 | 250.9 | 6.57 | 162.2 | 20.7 | | " " |
| 10:11 | 3 | 3.84 | 1.26 | 230.2 | 6.38 | 172.0 | 20.7 | | " " |
| 10:15 | 4 | 3.96 | 1.09 | 225.3 | 6.26 | 176.8 | 20.7 | | " " |
| 10:19 | 5 | 4.115 | 0.69 | 256.1 | 6.20 | 179.5 | 20.7 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH02

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge | SWL: 20.263 m — Logic Check: ~ |
| Project: Central Station Main Works | Sample Method: Micropurge | Screen: From:.....to..... m — Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 23 m | Ref.datum: ..... — Well Cap Secure? Y |
| Date: 17/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 33.53 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (~~ppm~~ %) | Elec.Cond (~~uS/cm~~ mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:12 | 1 | 20.57 | 0.50 | 887 | 6.97 | -51.3 | 20.9 | | light brown, cloudy, no odour, no sheen |
| 10:16 | 2 | 20.82 | 0.52 | 845 | 6.97 | -49.6 | 20.8 | | " " |
| 10:20 | 3 | 20.95 | 0.54 | 843 | 6.96 | -53.2 | 20.9 | | " " |
| 10:24 | 4 | 21.10 | 0.41 | 858 | 6.96 | -60.0 | 20.9 | | " " |
| 10:28 | 5 | 21.16 | 0.43 | 859 | 6.96 | -67.9 | 20.9 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM - BH09

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 17/12/19
Round December 2019

**Sampling Information**

Purge Method: Micropurge
Sample Method: Micropurge
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 20.860 m Logic Check: .....
Screen: From:.....to..... m Stick Up: 0 m
NAPL Check:..... Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Y
Bore Depth: 34.68 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:16 | 1 | 20.98 | 0.63 | 456.3 | 6.07 | -6.3 | 24.2 | | light brown, cloudy, no odour, no sheen |
| 11:22 | 2 | 20.99 | 0.54 | 457.2 | 6.08 | -7.6 | 24.1 | | " " |
| 11:27 | 3 | 21.02 | 0.32 | 443.7 | 6.03 | -6.7 | 22.5 | | " " |
| 11:32 | 4 | 21.18 | 0.28 | 443.6 | 6.06 | -12.2 | 22.3 | | " " |
| 11:37 | 5 | 21.30 | 0.27 | 450.9 | 6.14 | -26.5 | 22.2 | | " " |
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**Field QA Checks:**

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH06

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge | SWL: 20.746 m |
| Project: Central Station Main Works | Sample Method: Micropurge | Logic Check: - |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | Screen: From:.....to..... m |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N Pump Depth: 27 m | Stick Up: 0 m |
| Date: 12/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | NAPL Check: - |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | Bore Diam.: 50 mm |
| | | Ref.datum: - |
| | | Well Cap Secure? Y |
| | | Bore Depth: 35.43 m |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:48 | 1 | 20.80 | 0.75 | 886 | 6.34 | 23.3 | 22.8 | | clear, no odour, no sheen |
| 8:54 | 2 | 20.80 | 0.49 | 883 | 6.23 | 22.8 | 22.8 | | " " |
| 9:01 | 3 | 20.80 | 0.40 | 873 | 6.20 | 22.7 | 22.4 | | " " |
| 9:05 | 4 | 20.80 | 0.39 | 871 | 6.19 | 22.4 | 29.5 | | " " |
| 9:09 | 5 | 20.80 | 0.37 | 869 | 6.19 | 22.4 | 21.6 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

QC01 taken

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH08

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / T. Frederick
- Date: 16/12/15
- Round December 2019

**Sampling Information**
- Purge Method: QED Micropurge
- Sample Method: /
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 20.0 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 13.690 m  Logic Check: –
- Screen: From:.....to..... m  Stick Up: – m
- NAPL Check: –  Bore Diam.: 50 mm
- Ref.datum: –  Well Cap Secure? Y
- Bore Depth: 35.00 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (uS/cm.) ↔ | Elec.Cond (ppm.) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:59 | 1 | 13.75 | 5.90 | 356.0 | 9.97 | -17.5 | 21.4 | | clear, no odour, no sheen |
| 9:03 | 2 | 13.70 | 5.33 | 345.8 | 9.98 | 3.6 | 21.6 | | " " |
| 9:07 | 3 | 13.70 | 5.58 | 406.0 | 10.74 | -17.9 | 21.5 | | " " |
| 9:11 | 4 | 13.70 | 5.67 | 428.0 | 10.91 | -18.4 | 21.4 | | " " |
| 9:16 | 5 | 13.70 | 5.22 | 415.2 | 10.80 | -7.1 | 21.4 | | " " |
| 9:20 | 6 | 13.71 | 4.31 | 375.4 | 10.16 | 21.9 | 21.4 | | " " |
| 9:25 | 7 | 13.71 | 2.85 | 386.1 | 8.94 | 69.8 | 21.4 | | " " |
| 9:31 | 8 | 13.73 | 0.83 | 456.5 | 6.91 | -41.0 | 21.3 | | " " |
| 9:36 | 9 | 13.71 | 0.55 | 465.1 | 6.55 | -41.5 | 21.3 | | " " |
| 9:40 | 10 | 13.71 | 0.36 | 468.9 | 6.45 | -43.8 | 21.3 | | " " |
| 9:44 | 11 | 13.71 | 0.29 | 470.2 | 6.41 | -44.9 | 21.3 | | " " |
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**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH095

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.315 m |
| Project: Central Station Main Works | Sample Method: Peri | Logic Check: - |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | Screen: From:.....to..... m |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N | Pump Depth: 6.3 m |
| Date: 16/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Stick Up: 0 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | NAPL Check: - |
| | | Ref.datum: - |
| | | Bore Depth: 6.60 m |
| | | Bore Diam.: 50 mm |
| | | Well Cap Secure? Y |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:06 | 1 | 4.48 | 0.33 | 511 | 5.58 | 95.9 | 20.1 | | brown, turbid, no odour, no sheen |
| 11:10 | 2 | 4.65 | 0.18 | 511 | 5.60 | 85.5 | 19.8 | | " " |
| 11:14 | 3 | 4.75 | 0.28 | 514 | 5.65 | 78.9 | 19.8 | | clear, no odour, no sheen |
| 11:18 | 4 | 4.84 | 0.30 | 515 | 5.66 | 79.7 | 19.9 | | " " |
| 11:24 | 5 | 4.96 | 0.23 | 533 | 5.83 | 43.6 | 20.0 | | " " |
| 11:30 | 6 | 5.06 | 0.33 | 524 | 5.85 | 37.7 | 20.1 | | " " |
| 11:36 | 7 | 5.13 | 0.34 | 522 | 5.91 | 27.0 | 20.1 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

QC02 Taken

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH105

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 5.095 m |
| Project: Central Station Main Works | Sample Method: Peri | Logic Check: |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | Screen: From: to: m |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N Pump Depth: 9.8 m | Stick Up: 0 m |
| Date: 17/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | NAPL Check: Bore Diam.: 50 mm |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | Ref.datum: Well Cap Secure? Y |
| | | Bore Depth: 10.0 m |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:54 | 1 | 5.48 | 0.24 | 210.9 | 5.30 | 209.0 | 22.0 | | clear/cloudy, no colour, no odour, no sheen |
| 11:58 | 2 | 5.60 | 0.16 | 209.1 | 5.23 | 222.6 | 22.1 | | " " |
| 12:02 | 3 | 5.66 | 0.14 | 208.8 | 5.24 | 225.1 | 22.0 | | " " |
| 12:06 | 4 | 5.69 | 0.16 | 208.0 | 5.22 | 227.7 | 22.0 | | " " |
| 12:10 | 5 | 5.75 | 0.21 | 207.2 | 5.22 | 229.5 | 22.0 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW-BH7

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.010 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: ~1 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 6.0 m | Ref.datum: - — Well Cap Secure? N |
| Date: 16/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.17 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:25 | 1 | 4.28 | 0.25 | 376.0 | 4.73 | 201.1 | 20.9 | | clear w. red tint, unknown odour - acrid, no sheen |
| 10:32 | 2 | 4.55 | 0.19 | 382.0 | 4.25 | 268.2 | 21.6 | | " " |
| 10:36 | 3 | 4.83 | 0.61 | 386.0 | 4.21 | 291.9 | 21.3 | | " " |
| 10:40 | 4 | 5.01 | 0.52 | 387.9 | 4.28 | 273.4 | 21.2 | | " " |
| 10:44 | 5 | 5.13 | 0.49 | 388.5 | 4.23 | 276.2 | 21.2 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW–BH10

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge | SWL: 19.330 m — Logic Check: – |
| Project: Central Station Main Works | Sample Method: Micropurge | Screen: From:.....to..... m — Stick Up: ~1 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: – — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 23 m | Ref.datum: – — Well Cap Secure? No. |
| Date: 16/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 25.01 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:52 | 1 | 19.95 | 0.48 | 1324 | 6.30 | -86.4 | 21.5 | | H2S odour, cloudy, no sheen |
| 12:56 | 2 | 20.30 | 0.34 | 1317 | 6.25 | -98.9 | 21.3 | | " " |
| 13:00 | 3 | 20.47 | 0.30 | 1315 | 6.26 | -100.5 | 21.3 | | " " |
| 13:05 | 4 | 20.98 | 0.31 | 1317 | 6.28 | -105.6 | 21.2 | | " " |
| 13:10 | 5 | 21.58 | 0.30 | 1311 | 6.29 | -110.1 | 21.1 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW-BH11

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.636 m |
| Project: Central Station Main Works | Sample Method: Peri | Logic Check: - |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | Screen: From:.....to..... m |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N | Pump Depth: 7.8 m |
| Date: 16/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Stick Up: 0 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | NAPL Check: - |
| | | Ref.datum: - |
| | | Bore Depth: 8.05 m |
| | | Bore Diam.: 50 mm |
| | | Well Cap Secure? Y |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 1:28 | 1 | 4.99 | 0.59 | 348.0 | 5.95 | 17.6 | 20.9 | | cloudy, no odour, no sheen, light brown tint |
| 1:32 | 2 | 5.07 | 0.28 | 322.7 | 5.86 | 32.1 | 21.0 | | cloudy, no odour, no sheen |
| 1:36 | 3 | 5.10 | 0.22 | 288.0 | 5.61 | 68.7 | 21.0 | | " " |
| 1:41 | 4 | 5.13 | 0.22 | 280.9 | 5.61 | 62.0 | 20.7 | | clean, no odour, no sheen |
| 1.46 | 5 | 5.19 | 0.31 | 282.7 | 5.64 | 58.4 | 21.0 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW-BH23

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 16/12/19
Round December 2019

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 3.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 2.660 m  Logic Check: -
Screen: From:.....to..... m  Stick Up: 0 m
NAPL Check:.....  Bore Diam.: 50 mm
Ref.datum: .....  Well Cap Secure? T
Bore Depth: 3.92 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 2:39 | 1 | 2.67 | 0.45 | 451.1 | 9.38 | -232.5 | 22.0 | | clear, hydrocarbon odour, no sheen |
| 2:43 | 2 | 2.66 | 0.90 | 438.7 | 10.07 | -210.1 | 22.0 | | " " |
| 2:47 | 3 | 2.66 | 1.09 | 437.4 | 10.53 | -190.9 | 22.0 | | " " |
| 2:51 | 4 | 2.66 | 1.24 | 443.4 | 10.67 | -185.5 | 22.0 | | " " |
| 2:55 | 5 | 2.66 | 0.98 | 442.3 | 10.65 | -184.1 | 22.0 | | " " |
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**Field QA Checks:**

Air bubbles in vials? Y / (N)  Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW-BH25A

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 16/12/19
Round December 2019

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 2.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 1.337 m  Logic Check: -
Screen: From: ..... to ..... m  Stick Up: 0 m
NAPL Check: -  Bore Diam.: 50 mm
Ref.datum: -  Well Cap Secure? Y
Bore Depth: 2.95 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.ppm.) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 2:07 | 1 | 1.38 | 0.23 | 490.6 | 10.41 | -264.9 | 21.5 | | grey, turbid, hydrocarbon odour, no sheen |
| 2:11 | 2 | 1.40 | 0.08 | 510 | 9.96 | -245.6 | 21.9 | | " " |
| 2:15 | 3 | 1.41 | 0.07 | 535 | 9.74 | -250.0 | 21.9 | | " " |
| 2:18 | 4 | 1.39 | 0.06 | 560 | 9.39 | -249.0 | 22.0 | | clear, hydrocarbon odour, no sheen |
| 2:21 | 5 | 1.90 | 0.06 | 568 | 9.19 | -269.3 | 22.0 | | " " |

**Field QA Checks:**

Air bubbles in vials? Y / (N)  Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH047

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 5.650 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 6.8 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 18/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.97 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.ppm.) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:44 | 1 | 6.09 | 0.74 | 389.0 | 7.56 | 106.8 | 20.5 | | clean, no odour/sheen |
| 11:48 | 2 | 6.21 | 1.01 | 385.7 | 7.57 | 102.3 | 20.5 | | " " |

**Field QA Checks:**

Air bubbles in vials? Y / N — Any violent reactions? Y / N

Decontamination as per GHD procedure? Y / N

Was sampling equipment pre-cleaned? Y / N

COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Not enough water → sampled before stabilising

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CRT_BH052

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 18/12/19
Round December 2019

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 7.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 6.370 m  Logic Check: -
Screen: From:.....to..... m  Stick Up: 0 m
NAPL Check:.....  Bore Diam.: 50 mm
Ref.datum: .....  Well Cap Secure? Y
Bore Depth: 7.91 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| Stable when (3 consecutive readings): | | stable | +/- 10% | +/- 3% | +/- 0.05 pH | +/- 10 mV | - | | |
| 8:43 | 1 | 6.73 | 3.86 | 355.1 | 7.52 | 104.4 | 20.3 | | light brown, cloudy, no odour, no sheen |
| 8.47 | 2 | 6.93 | 3.33 | 350.9 | 7.28 | 115.8 | 20.4 | | clear, no odour, no sheen |
| 8.51 | 3 | 7.24 | 3.41 | 334 | 6.97 | 127.9 | 20.4 | | " " |
| 8.56 | 4 | 7.48 | 3.57 | 333.0 | 6.91 | 130.2 | 20.4 | | " " |
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**Field QA Checks:**

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** SRT_BH059

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rouke / Sydney Metro | Purge Method: Peri | SWL: 4.890 m — Logic Check: — |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 5.8 m | Ref.datum: ..... — Well Cap Secure? Y |
| Date: 18/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.01 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (uS/cm...) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:34 | 1 | 5.35 | 3.35 | 345.4 | 6.89 | 57.4 | 20.6 | | clean, no colour/sheen |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Not enough water → sampled before stabilising

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_CBH015

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.561 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:- — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 5.8 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 18/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 5.97 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.ppm.) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9:37 | 1 | 4.74 | 0.72 | 172.6 | 5.81 | 178.0 | 20.9 | | brown, turbid, no odour/sheen |
| 9:41 | 2 | 4.86 | 0.67 | 163.3 | 5.32 | 162.8 | 20.7 | | clear, no odour/sheen |
| 9.45 | 3 | 4.98 | 0.65 | 164.7 | 5.30 | 232.9 | 20.7 | | " " |
| 9.49 | 4 | 5.12 | 0.56 | 168.9 | 5.31 | 232.3 | 20.7 | | " " |
| 9:54 | 5 | 5.33 | 0.76 | 170.8 | 5.28 | 238.1 | 20.6 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Well about to be destroyed! (Digging up brickwork with excavator)

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_CBH017

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Per | SWL: 3.635 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Per | Screen: From:.....to..... m — Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / T. Frederick | Flow Cell: Y / N — Pump Depth: 4.8 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 18/12/19 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 4.94 m |
| Round December 2019 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:04 | 1 | 3.85 | 0.28 | 275.0 | 6.22 | 70.9 | 21.4 | | clear/cloudy, no odour/sheen |
| 11:08 | 2 | 4.01 | 0.61 | 246.4 | 6.07 | 107.4 | 21.5 | | " " |
| 11:12 | 3 | 4.20 | 0.72 | 226.5 | 6.02 | 123.5 | 21.5 | | clear, no odour/sheen |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH02

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / T. Frederick
- Date: 21/1/2020
- Round January 2020

**Sampling Information**
- Purge Method: Geocontrol
- Sample Method: Geocontrol
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth:.....m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel / disposable filter/syringe)

**Bore Information**
- SWL: 20.206 m  Logic Check: -
- Screen: From: - to - m  Stick Up: 0 m
- NAPL Check: -  Bore Diam.: 50 mm
- Ref.datum: -  Well Cap Secure? Y
- Bore Depth: 43.55 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| Stable when (3 consecutive readings): | | stable | +/- 10% | +/- 3% | +/- 0.05 pH | +/- 10 mV | - | | |
| 12:10 | 1 | 20.51 | 0.90 | 1099 | 6.85 | -71.6 | 24.2 | | light brown, cloudy, no odour / sheen |
| 12:14 | 2 | 20.61 | 0.79 | 1064 | 6.70 | -59.9 | 22.7 | | " |
| 12:19 | 3 | 20.75 | 0.61 | 1056 | 6.64 | -60.3 | 22.3 | | " |
| 12:25 | 4 | 20.80 | 0.47 | 1050 | 6.73 | -67.9 | 22.2 | | " |
| 12:30 | 5 | 20.99 | 0.48 | 1048 | 6.85 | -77.3 | 22.2 | | " |

**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM-BH04

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / T. Frederick
- Date: 21/1/2020
- Round January 2020

**Sampling Information**
- Purge Method: Geocentol
- Sample Method: Geocentol
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 25 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 20.790 m  Logic Check: -
- Screen: From: ..... to ..... m  Stick Up: 0 m
- NAPL Check: .....  Bore Diam.: 50 mm
- Ref.datum: .....  Well Cap Secure? Y
- Bore Depth: 34.02 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| Stable when (3 consecutive readings): | | stable | +/- 10% | +/- 3% | +/- 0.05 pH | +/- 10 mV | - | | |
| 9:10 | 1 | 20.91 | 0.90 | 465.5 | 5.99 | 17.3 | 21.0 | | light brown, no odour / sheen, cloudy |
| 9:15 | 2 | 20.99 | 0.77 | 462.6 | 5.99 | 18.3 | 22.4 | | " " |
| 9:20 | 3 | 21.03 | 0.74 | 461.9 | 5.91 | 25.7 | 22.0 | | " " |
| 9:24 | 4 | 20.08 | 0.81 | 467.9 | 5.88 | 27.0 | 22.0 | | " " |
| 9:29 | 5 | 20.07 | 0.82 | 470.0 | 5.89 | 26.6 | 21.9 | | " " |

**Field QA Checks:**
- Air bubbles in vials? Y / (N)  Any violent reactions? Y / (N)
- Decontamination as per GHD procedure? (Y) / N
- Was sampling equipment pre-cleaned? (Y) / N
- COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

QC02 Taken

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH08

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 21/1/2020
Round January 2020

**Sampling Information**

Purge Method: Geocontrol
Sample Method: Geocontrol
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 20 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 13.660 m  Logic Check: -
Screen: From: - to: - m  Stick Up: 0 m
NAPL Check: -  Bore Diam.: 50 mm
Ref.datum: -  Well Cap Secure? Y
Bore Depth: 35.01 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 7:45 | 1 | 13.70 | 0.30 | 519 | 6.51 | -49.5 | 21.5 | | clean, no odour/sheen |
| 7:49 | 2 | 13.68 | 0.16 | 527 | 6.30 | -51.4 | 21.4 | | " " |
| 7:53 | 3 | 13.68 | 0.18 | 531 | 6.29 | -51.9 | 21.5 | | " " |
| 7:57 | 4 | 13.68 | 0.27 | 533 | 6.32 | -51.1 | 21.7 | | " " |
| 8:01 | 5 | 13.68 | 0.30 | 534 | 6.32 | -48.6 | 21.7 | | " " |

**Field QA Checks:**

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH095

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 22/1/2020
Round January 2020

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 4.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 4.274 m  Logic Check: –
Screen: From: – to – m  Stick Up: 0 m
NAPL Check: –  Bore Diam.: 50 mm
Ref.datum: –  Well Cap Secure? Y
Bore Depth: 6.595 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:12 | 1 | 4.60 | 0.26 | 590 | 5.73 | 20.2 | 20.3 | | red tint, no odour / sheen, cloudy |
| 8:16 | 2 | 4.50 | 0.22 | 587 | 5.78 | 20.2 | 20.2 | | " " |
| 8:23 | 3 | 4.86 | 0.51 | 575 | 5.77 | 22.5 | 20.5 | | " " |
| 8:27 | 4 | 4.92 | 0.62 | 574 | 5.81 | 20.3 | 20.2 | | " " |
| 8:33 | 5 | 5.02 | 0.90 | 563 | 5.79 | 20.1 | 20.1 | | " " |

**Field QA Checks:**

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM-BH105

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 20/1/20
Round January 2020

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 9.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 5.173 m  Logic Check: –
Screen: From:.....to..... m  Stick Up: 0 m
NAPL Check:.....  Bore Diam.: 50 mm
Ref.datum:.....  Well Cap Secure? Y
Bore Depth: 9.85 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:54 | 1 | 5.38 | 0.24 | 249.6 | 5.34 | 174.0 | 21.6 | | cloudy, white, no odour, no sheen |
| 12:58 | 2 | 5.47 | 0.30 | 228.7 | 5.31 | 197.2 | 21.6 | | " " |
| 13:02 | 3 | 5.51 | 0.25 | 227.5 | 5.32 | 206.6 | 21.6 | | clear, no odour / sheen |
| 13:07 | 4 | 5.51 | 0.36 | 228.0 | 5.31 | 211.6 | 21.8 | | " " |
| 13:11 | 5 | 5.53 | 0.50 | 227.8 | 5.32 | 214.4 | 21.8 | | " " |

**Field QA Checks:**

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

QC01 taken

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRS_BH017

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 20/1/20
Round January 2020

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 4.390 m  Logic Check: .....
Screen: From:.....to..... m  Stick Up: 0 m
NAPL Check:.....  Bore Diam.: 50 mm
Ref.datum: .....  Well Cap Secure? Y
Bore Depth: 7.03 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.ppm.) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:12 | 1 | 4.99 | 0.78 | 416.7 | 7.86 | 64.4 | 21.0 | | clear, no odour, no sheen |
| 10:18 | 2 | 5.35 | 0.81 | 413.7 | 7.93 | 52.1 | 21.2 | | " " |
| 10:22 | 3 | 5.66 | 1.00 | 407.9 | 7.97 | 46.1 | 21.1 | | " " |
| 10:27 | 4 | 5.98 | 1.83 | 393.8 | 7.87 | 49.5 | 21.2 | | " " |
| 10:32 | 5 | 6.28 | 2.11 | 391.3 | 7.76 | 52.1 | 21.0 | | " " |

**Field QA Checks:**

Air bubbles in vials? Y / (N)  Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT-BH052

**Job Information**

Client: Laing O'Rouke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 20/1/20
Round January 2020

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 6.205 m  Logic Check: .....
Screen: From:.....to..... m  Stick Up: 0 m
NAPL Check:.....  Bore Diam.: 50 mm
Ref.datum: .....  Well Cap Secure? Y
Bore Depth: 7.92 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9.28 | 1 | 6.55 | 4.79 | 421.9 | 7.38 | 107.3 | 20.7 | | clear, no odour / sheen |
| 9:33 | 2 | 6.76 | 3.93 | 414.8 | 7.15 | 105.3 | 21.0 | | " " |
| 9:38 | 3 | 7.23 | 3.58 | 377.4 | 6.74 | 107.7 | 21.0 | | " " |
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**Field QA Checks:**

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Sampled before stabilising due to low water level

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH059

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 20/1/20
Round January 2020

**Sampling Information**

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 2.980 m Logic Check: .....
Screen: From:.....to..... m Stick Up: 0 m
NAPL Check:..... Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Y
Bore Depth: 6.00 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| Stable when (3 consecutive readings): | | stable | +/- 10% | +/- 3% | +/- 0.05 pH | +/- 10 mV | - | | |
| 11:07 | 1 | 3.20 | 5.37 | 388.7 | 7.22 | 92.2 | 21.2 | | clear, no odour/colour sheen |
| 11:12 | 2 | 3.45 | 5.40 | 386.2 | 7.13 | 90.5 | 21.1 | | " " |
| 11:16 | 3 | 3.69 | 5.85 | 386.5 | 7.12 | 87.7 | 21.1 | | " " |
| 11:20 | 4 | 3.87 | 5.92 | 387.5 | 7.13 | 86.3 | 21.2 | | " " |
| 11:24 | 5 | 4.09 | 5.38 | 392.6 | 7.14 | 85.6 | 21.4 | | " " |
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**Field QA Checks:**

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

**Purge Volumes**

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT-CBH017

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / T. Frederick
- Date: 20/1/20
- Round January 2020

**Sampling Information**
- Purge Method: N/A
- Sample Method: Pei
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 4.8 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 4.205 m  Logic Check: -
- Screen: From: ..... to ..... m  Stick Up: 0 m
- NAPL Check: .....  Bore Diam.: 50 mm
- Ref.datum: -  Well Cap Secure? Y
- Bore Depth: 4.94 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (uS/cm.) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:05 | 1 | 4.77 | 0.52 | 293.1 | 6.27 | 54.6 | 21.9 | | clear, no odour/colour |
| 12:10 | 2 | 4.83 | 0.41 | 311.9 | 6.28 | 8.1 | 21.8 | | " " Purged Dry |
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**Field QA Checks:**
Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Grap sampled — only 0.7m of water + known slow recharge

Parameters taken after sampling using remaining water

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CASW – BH7

**Job Information**

Client: Laing O'Rouke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 27/1/20
Round January 2020

**Sampling Information**

Purge Method:
Sample Method:
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 6.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 4.455 m  Logic Check: –
Screen: From: ..... to ..... m  Stick Up: ~1 m
NAPL Check: .....  Bore Diam.: 50 mm
Ref.datum: .....  Well Cap Secure? Y
Bore Depth: 6.17 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (..ppm..) | Elec.Cond (uS/cm..) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:55 | 1 | 4.75 | 1.38 | 447.7 | 3.82 | 384.3 | 22.3 | | slight hydrocarbon odour, clear, no sheen |
| 9:00 | 2 | 5.03 | 2.01 | 443.3 | 3.87 | 383.3 | 22.5 | | " |
| 9:04 | 3 | 5.15 | 1.28 | 444 | 3.92 | 339.4 | 22.6 | | " |
| 9:08 | 4 | 5.41 | 0.63 | 442.8 | 3.98 | 343.9 | 22.5 | | " |
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**Field QA Checks:**

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Sampled as only 0.8m water left

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH10

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| **Client:** Laing O'Rouke / Sydney Metro | **Purge Method:** Geocontrol | **SWL:** ~~19.280~~ ..... m **Logic Check:** ..... |
| **Project:** Central Station Main Works | **Sample Method:** Geocontrol | **Screen:** From:.....to..... m **Stick Up:** ~~.....~~ m ~1m |
| **Proj. No.:** 21-27234 | **WQ Meter Type:** YSI | **NAPL Check:**..... **Bore Diam.:** 50 mm |
| **Sampler:** T. Nham / T. Frederick | **Flow Cell:** Y / N **Pump Depth:** 24 m | **Ref.datum:** ..... **Well Cap Secure?** Y |
| **Date:** 21/1/20 | **WLevel Meter Type:** Dip / Fox / Int.Fce / Gge | **Bore Depth:** 24.98 m |
| **Round** January 2020 | **Field Filtered?** Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (p.p.m.) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:19 | 1 | 19.93 | 0.63 | 1536 | 6.28 | -84.0 | 22.3 | | clear/cloudy, H2S odour (slight), no sheen |
| 10:24 | 2 | 20.43 | 0.54 | 1526 | 6.31 | -97.3 | 22.0 | | " " |
| 10:29 | 3 | 20.83 | 0.79 | 1522 | 6.34 | -104.7 | 21.9 | | " " |
| 10:33 | 4 | 21.22 | 0.87 | 1521 | 6.39 | -110.1 | 21.8 | | " " |
| 10:38 | 5 | 21.77 | 0.93 | 1520 | 6.42 | -114.9 | 21.8 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASV_BH11

**Job Information**
Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / T. Frederick
Date: 22/1/20
Round January 2020

**Sampling Information**
Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 7.5 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
SWL: 4.742 m  Logic Check: 0
Screen: From: ..... to ..... m  Stick Up: 0 m
NAPL Check: .....  Bore Diam.: 50 mm
Ref.datum: -  Well Cap Secure? Y
Bore Depth: 8.05 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (..ppm..) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| Stable when (3 consecutive readings): | | stable | +/- 10% | +/- 3% | +/- 0.05 pH | +/- 10 mV | - | | |
| 9:29 | 1 | 5.08 | 0.22 | 307.2 | 5.57 | 141.1 | 21.9 | | red/brown, cloudy, hydrocarbon odour?, no sheen |
| 9:33 | 2 | 5.22 | 0.31 | 284.5 | 5.36 | 149.2 | 21.8 | | " " |
| 9:38 | 3 | 5:30 | 0.52 | 273.8 | 5.25 | 158.5 | 21.8 | | " " |
| 9:42 | 4 | 5:34 | 0.61 | 271.8 | 5.21 | 159.8 | 21.8 | | " " |
| 9:46 | 5 | 5:35 | 6.61 | 279.3 | 5.33 | 144.0 | 21.8 | | " " |
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| | | | | | | | | | Odour could just be lucked from previous well. |
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**Field QA Checks:**
Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*
Casing Int. Dia (mm) 50 100 150
Vol (L/m of casing) 2.0 7.9 17.7
*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH23

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / T. Frederick
- Date: 22/1/2020
- Round January 2020

**Sampling Information**
- Purge Method: Pei
- Sample Method: Pei
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 3.8 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 2.835 m  Logic Check: –
- Screen: From: – to: – m  Stick Up: ~0.5 m
- NAPL Check: –  Bore Diam.: 50 mm
- Ref.datum: –  Well Cap Secure? Y
- Bore Depth: 3.91 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:49 | 1 | 2.84 | 0.07 | 857 | 7.59 | -229.5 | 24.2 | black/ | grey, cloudy, hydrocarbon odour, slight sheen |
| 10:53 | 2 | 2.84 | 0.08 | 803 | 7.60 | -216.1 | 23.9 | | clear, hydrocarbon odour, slight sheen |
| 10:56 | 3 | 2.84 | 0.08 | 849 | 7.40 | -180.6 | 23.9 | | " |
| 11:00 | 4 | 2.85 | 0.08 | 870 | 7.25 | -157.6 | 24.0 | | " |
| 11:05 | 5 | 2.85 | 0.11 | 889 | 7.21 | -145.9 | 24.0 | | " |

**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CASW_25A

**Job Information**
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / T. Frederick
- Date: 22/1/20
- Round January 2020

**Sampling Information**
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N  Pump Depth: 2.8 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**
- SWL: 1.617 m  Logic Check: -
- Screen: From: - to: - m  Stick Up: 0 m
- NAPL Check: -  Bore Diam.: 50 mm
- Ref.datum: -  Well Cap Secure? Y
- Bore Depth: 2.95 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:03 | 1 | 1.90 | 0.23 | 361.0 | 9.93 | 29.0 | 24.0 | | hydrocarbon odour, grey, cloudy, slight sheen |
| 10:09 | 2 | 2.60 | 0.13 | 429.5 | 9.23 | -153.3 | 24.1 | | light grey, cloudy, hydrocarbon odour |
| 10:12 | 3 | 2.05 | 0.15 | 451.2 | 9.10 | -158.9 | 24.1 | | " " |
| 10:17 | 4 | 2.06 | 0.12 | 502 | 8.68 | -164.9 | 24.1 | | clear, hydrocarbon odour, slight sheen |
| 10:21 | 5 | 2.06 | 0.09 | 555 | 8.23 | -223.8 | 24.0 | | " " |
| 10:26 | 6 | 2.09 | 0.10 | 580 | 7.97 | -215.1 | 23.9 | | " " |
| 10:30 | 7 | 2.10 | 0.12 | 592 | 7.83 | -207.3 | 24.0 | | " " |

**Field QA Checks:**
- Air bubbles in vials? Y / N  Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH02

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge | SWL: 20.315 m Logic Check: - |
| Project: Central Station Main Works | Sample Method: Micropurge | Screen: From:.....to..... m Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N Pump Depth: 25 m | Ref.datum: ..... Well Cap Secure? Y |
| Date: 25/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 33.45 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:40 | 1 | 20.58 | 1.58 | 1053 | 6.77 | 1.3 | 25.5 | | light brown, cloudy, no odour / sheen |
| 11:46 | 2 | 20.73 | 0.70 | 1018 | 0.72 | -21.7 | 22.8 | | " " |
| 11:52 | 3 | 20.98 | 0.41 | 1001 | 0.40 | -30.0 | 22.1 | | " " |
| 11:57 | 4 | 21.11 | 0.39 | 995 | 0.40 | -33.0 | 22.0 | | " " |
| 12:02 | 5 | 22.1 | 0.40 | 993 | 0.42 | -39.0 | 22.1 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH04

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: QED Micropurge | SWL: 20.856 m — Logic Check: |
| Project: Central Station Main Works | Sample Method: " | Screen: From: to: m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 25 m | Ref.datum: — Well Cap Secure? Yes |
| Date: 25/2/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 29.77 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm...) | Elec.Cond (uS/cm...) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9:22 | 1 | 21.02 | 0.90 | 490.3 | 6.13 | 12.4 | 23.0 | | light brown, cloudy, no odour, no sheen |
| 9:30 | 2 | 21.04 | 0.48 | 490.2 | 6.01 | 13.5 | 22.4 | | " |
| 9:39 | 3 | 21.06 | 0.47 | 494.0 | 5.99 | 14.1 | 22.3 | | " |
| 9:47 | 4 | 21.08 | 0.51 | 498.5 | 6.02 | 8.3 | 22.3 | | " |
| 9:54 | 5 | 21.09 | 0.51 | 504.0 | 6.06 | 1.4 | 22.5 | | " |
| 10:00 | 6 | 21.09 | 0.49 | 511 | 6.09 | -5.7 | 22.3 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

QC02 taken

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH106

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 20.750 m — Logic Check: ..... |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 25 m | Ref.datum: ..... — Well Cap Secure? T |
| Date: 25/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 35.37 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 2:19 | 1 | 20.77 | 0.51 | 1042 | 6.28 | -24.7 | 26.0 | | light-brown, cloudy, no odour / sheen |
| 2:19 | 2 | 20.78 | 0.35 | 1016 | 6.21 | -23.5 | 25.0 | | " " |
| 2:27 | 3 | 20.80 | 0.36 | 1010 | 6.21 | -18.5 | 24.7 | | " " |
| 2:30 | 4 | 20.78 | 0.29 | 1011 | 6.20 | -16.6 | 24.6 | | " " |
| 2:35 | 5 | 20.77 | 0.37 | 1009 | 6.19 | -15.9 | 24.4 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CMW08

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge (GED) | SWL: 13.735 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: " | Screen: From: ..... to ..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 20 m | Ref.datum: ✓ — Well Cap Secure? Yes |
| Date: 25/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 24.98 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 7:25 | 1 | 13.78 | 4.85 | 350.9 | 8.26 | -65.3 | 21.5 | | Clear |
| 7:28 | 2 | 13.76 | 2.76 | 470.7 | 6.89 | -32.7 | 21.5 | | " |
| 7:31 | 3 | 13.76 | 1.98 | 511 | 6.56 | -31.3 | 21.5 | | " |
| 7:34 | 4 | 13.77 | 1.48 | 533 | 6.47 | -34.7 | 21.4 | | " |
| 7:37 | 5 | 13.77 | 1.24 | 539 | 6.41 | -37.5 | 21.4 | | " |
| 7:40 | 6 | 13.77 | 1.06 | 540 | 6.38 | -37.3 | 21.4 | | " |
| 7:43 | 7 | 13.76 | 1.02 | 542 | 6.38 | -38.8 | 21.4 | | " |
| 7:46 | 8 | 13.77 | 0.95 | 545 | 6.35 | -39.1 | 21.4 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM_BH09S

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.110 m — Logic Check: ..... |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up:..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 6.5 m | Ref.datum: ..... — Well Cap Secure? Yes |
| Date: 24/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.60 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm.....) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9.57 | 1 | 4.20 | 0.29 | 621 | 6.02 | -8.5 | 20.9 | | clear w. red/brown sediment, no odour, no sheen |
| 10.01 | 2 | 4.36 | 0.19 | 614 | 5.89 | -4.0 | 21.0 | | " |
| 10.05 | 3 | 4.44 | 0.18 | 607 | 5.86 | -0.3 | 20.9 | | " |
| 10:10 | 4 | 4.56 | 0.26 | 600 | 5.85 | 3.3 | 21.0 | | " |
| 10:16 | 5 | 4.67 | 0.68 | 592 | 5.86 | 6.9 | 20.9 | | " |
| 10:20 | 6 | 4.73 | 0.92 | 584 | 5.88 | 8.7 | 20.9 | | " |
| 10:24 | 7 | 4.78 | 1.04 | 582 | 5.91 | 6.8 | 21.0 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

QC01 taken

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM_BH105

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.204 m — Logic Check: |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: ..... to: ..... m — Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 9.5 m | Ref.datum: — Well Cap Secure? T |
| Date: 25/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 10.04 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:18 | 1 | 4.55 | 0.34 | 265.0 | 5.46 | 163.9 | 22.3 | | light brown, cloudy, no odour / steel |
| 10:23 | 2 | 4.56 | 0.25 | 260.1 | 5.43 | 177.7 | 22.4 | | " " |
| 10:29 | 3 | 4.60 | 0.26 | 251.2 | 5.36 | 194.9 | 22.3 | | clear/cloudy, no odour / steel |
| 10:36 | 4 | 4.66 | 0.34 | 251.0 | 5.36 | 202.3 | 22.4 | | " " |
| 10:43 | 5 | 4.70 | 0.39 | 253.8 | 5.38 | 199.5 | 22.8 | | " " |
| 10:46 | 6 | 4.71 | 0.40 | 253.0 | 5.33 | 201.5 | 22.6 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW-BH7

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.813 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: - to: - m — Stick Up: 0.87 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 6.0 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 24/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.21 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:28 | 1 | 5.18 | 0.60 | 422.9 | 4.19 | 242.7 | 23.1 | | Clear with red sediment, no ~~sheen~~ / clear, slight gas/sg-y odour |
| 8:33 | 2 | 5.44 | 1.12 | 418.3 | 4.01 | 287.0 | 22.7 | | clear, slight gas works odour, no sheen |
| 8:37 | 3 | 5.60 | 0.70 | 420.1 | 4.04 | 276.4 | 22.7 | | " " |
| 8:42 | 4 | 5.74 | 0.61 | 422.5 | 4.07 | 276.8 | 22.8 | | " " |
| 8:47 | 5 | 5.89 | 0.46 | 422.0 | 4.16 | 261.0 | 22.8 | | " " |

*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Dewatering occurring nearby = drop in SWL

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASH-RH10

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 19.195 m — Logic Check: - |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: - to: - m — Stick Up: 0.75 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: - — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 23 m | Ref.datum: - — Well Cap Secure? Y |
| Date: 24/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 25.66 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (..ppm..) | Elec.Cond (mS/cm..) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9:14 | 1 | 19.5 | 0.51 | 1476 | 6.31 | -136.7 | 22.0 | | H2S odour, clear, no sheen |
| 9:17 | 2 | 20.0 | 0.33 | 1471 | 6.34 | -145.9 | 21.9 | | " " |
| 9:22 | 3 | 20.5 | 0.37 | 1474 | 6.36 | -153.4 | 22.6 | | " " |
| 9:26 | 4 | 20.92 | 0.43 | 1463 | 6.38 | -156.2 | 21.7 | | " " |
| 9:30 | 5 | 21.45 | 0.49 | 1464 | 6.39 | -157.2 | 21.6 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CASW - BH11

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.570 m Logic Check: ..... |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N Pump Depth: 7.8 m | Ref.datum: ..... Well Cap Secure? T |
| Date: 24/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 8.05 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (ppm) | Elec.Cond (mS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:00 | 1 | 4.82 | 1.38 | 285.6 | 5.71 | 96.1 | 22.1 | | slight gasworks odour, brown, cloudy, no sheen |
| 11:05 | 2 | 5.05 | 1.23 | 277.9 | 5.56 | 108.0 | 22.0 | | " " |
| 11:09 | 3 | 5.14 | 1.11 | 286.7 | 5.58 | 101.5 | 21.9 | | " " |
| 11:12 | 4 | 5.18 | 1.07 | 292.1 | 5.66 | 291.6 | 21.9 | | " " |
| 11:17 | 5 | 5.22 | 0.94 | 304.5 | 5.77 | 303.8 | 22.0 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH23

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 3.064 m Logic Check: - |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m Stick Up: 0.44 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N Pump Depth: 3.8 m | Ref.datum: ..... Well Cap Secure? Y |
| Date: 24/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 3.915 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:40 | 1 | 3.51 | 0.32 | 809 | 7.19 | -219.6 | 23.9 | | gasmoky odour, cloudy, grey, no sheen |
| Paused while sampling | | | | | | | | | |
| 12:58 | 2 | 3.91 | 1.83 | 796 | 7.07 | -151.9 | 23.5 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

Sampled before stabilizing as not enough water
Likely due to de-watering

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW-BH25A

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 1.825 m Logic Check: — |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m Stick Up: 0 m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N Pump Depth: 2.8 m | Ref.datum: ..... Well Cap Secure? Y |
| Date: 29/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 2.95 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.ppm.) | Elec.Cond (us/cm.) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 1:12 | 1 | 2.03 | 0.07 | 408.9 | 8.56 | -224.4 | 23.7 | | Hydrocarbon sheen, high sediment, turbid, grey, strong hydrocarbon odour |
| 1:16 | 2 | 2.05 | 0.18 | 388.1 | 8.49 | -224.1 | 23.7 | | |
| 1:20 | 3 | 2.06 | 0.17 | 411.9 | 8.26 | -216.3 | 23.7 | | Hydrocarbon odour, clear, no colour, no sheen |
| 1:28 | 4 | 2.08 | 0.14 | 502 | 7.71 | -211.0 | 23.7 | | " " |
| 1:33 | 5 | 2.09 | 0.10 | 516 | 7.89 | -232.5 | 23.7 | | light grey, cloudy, hydrocarbon odour, no sheen |
| 1:37 | 6 | 2.12 | 0.14 | 519 | 7.62 | -208.7 | 23.7 | | " " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT-BH047

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.080 m — Logic Check: |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: to m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 6.8 m | Ref.datum: — Well Cap Secure? |
| Date: 26/2/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.96 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12:06 | 0.5 | 4.42 | 1.55 | 491.0 | 7.19 | 105.6 | 22.0 | | clear |
| 12:08 | 1 | 4.66 | 1.65 | 436.7 | 7.29 | 100.2 | 21.7 | | " |
| 12:12 | 1.5 | 4.91 | 2.41 | 415.1 | 7.19 | 101.9 | 21.9 | | " |
| 12:15 | 2 | 5.13 | 3.51 | 371.8 | 6.90 | 114.9 | 21.8 | | " |
| 12:18 | 2.5 | 5.53 | 4.42 | 322.8 | 6.37 | 139.2 | 21.9 | | " |
| 12:21 | 3 | 5.68 | 4.52 | 315.1 | 6.31 | 142.9 | 21.8 | | " |
| 12:24 | 3.5 | 5.91 | 4.83 | 311.4 | 6.29 | 145.5 | 21.9 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** SKT-BH050

| *Job Information* | *Sampling Information* | *Bore Information* |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: | SWL: 2.305 m — Logic Check: / |
| Project: Central Station Main Works | Sample Method: | Screen: From:..... to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: / — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth:.....m | Ref.datum: / — Well Cap Secure? X |
| Date: 26/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 2.775 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (~~µS/cm~~) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12.49 | 0.1 | 2.46 | 6.13 | 218.1 | 5.66 | 180.6 | 24.3 | | brown, turbid, no odour / sheen |
| 12.52 | 0.4 | 2.56 | 6.37 | 212.8 | 5.23 | 212.1 | 23.7 | | turning clear |
| 12.55 | 0.8 | ~~Dry~~ | 6.13 | 211.3 | 4.93 | 231.4 | 23.7 | | |
| | | | | | | | | | Dry. purged. |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH052

**Job Information**

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 26/2/20
Round February 2020

**Sampling Information**

Purge Method: ~~Pump~~ Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 7.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

**Bore Information**

SWL: 5.710 m Logic Check: /
Screen: From: / to: m Stick Up: / m
NAPL Check: Bore Diam.: 50 mm
Ref.datum: Well Cap Secure?
Bore Depth: 7.92 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:18 | 0.25 | 5.92 | 4.19 | 437.7 | 7.46 | 98.7 | 22.1 | | clear, no odour / sheen |
| 11:21 | 0.6 | 6.09 | 4.24 | 432.2 | 7.32 | 103.3 | 21.7 | | |
| 11:24 | 1 | 6.22 | 4.53 | 410.4 | 7.05 | 113.2 | 21.7 | | |
| 11:27 | 1.3 | 6.36 | 5.21 | 359.6 | 6.69 | 124.8 | 21.8 | | |
| 11:30 | 1.6 | ~~6.32~~ 6.50 | 5.72 | 299.1 | 6.30 | 144.9 | 21.8 | | |
| 11:33 | 2.0 | 6.61 | 5.77 | 277.7 | 6.06 | 158.1 | 21.7 | | |
| 11:36 | 2.4 | 6.805 | 5.68 | 263.5 | 5.90 | 168.9 | 21.6 | | |
| 11:39 | 2.7 | 7.025 | 5.63 | 264.2 | 5.92 | 169.0 | 21.6 | | Stable. Sampled |
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*Field QA Checks:*
Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*
Casing Int. Dia (mm) 50 100 150
Vol (L/m of casing) 2.0 7.9 17.7
*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH039

*Job Information*

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / J. Vickers
Date: 26/2/2020
Round February 2020

*Sampling Information*

Purge Method: Pump
Sample Method: Pump
WQ Meter Type: YSI
Flow Cell: Y / N  Pump Depth: 5.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

*Bore Information*

SWL: 3.36 m  Logic Check: /
Screen: From: / to: m  Stick Up: / m
NAPL Check: /  Bore Diam.: 50 mm
Ref.datum: /  Well Cap Secure? Yes
Bore Depth: 6.00 m

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10.13 | 0.2 | 3.390 | 2.14 | 392.7 | 7.21 | 96.5 | 22.1 | | clear / slightly cloudy, no odour / sheen |
| 10.16 | 0.6 | 3.480 | 2.08 | 385.0 | 7.00 | 98.2 | 21.7 | | " |
| 10.19 | 1.0 | 3.535 | 2.00 | 379.8 | 6.92 | 99.6 | 21.7 | | " |
| 10.22 | 1.3 | 3.665 | 2.02 | 381.0 | 6.91 | 99.3 | 22.1 | | " |
| 10.25 | 1.7 | 3.844 | 2.03 | 380.7 | 6.91 | 99.1 | 22.0 | | Stable - Sampled |
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*Field QA Checks:*

Air bubbles in vials? Y / N  Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SKT-BH060

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 3.845 m — Logic Check: ..... |
| Project: Central Station Main Works | Sample Method: No Sample | Screen: From:..... to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth:.....m | Ref.datum: ..... — Well Cap Secure?..... |
| Date: 21/2/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 4.285 m |
| Round February 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µs/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10.53 | 0.1 | 4.075 | 5.96 | 243.0 | 7.06 | 117.4 | 23.4 | | clear, no odour/sheen |
| 10.56 | 0.3 | 4.245 | 5.69 | 194.9 | 6.39 | 144.8 | 22.4 | | |
| | | | | | | | | | Purged dry, very poor recharge |
| | | Purged dry, | no sample | taken | | | | | |

*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH02

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: QED Micropurge | SWL: 20.140 m — Logic Check: |
| Project: Central Station Main Works | Sample Method: | Screen: From: ..... to ..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 25 m | Ref.datum: ..... — Well Cap Secure? Yes |
| Date: 18/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 33.49 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (Cus/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10.10 | 1 | 20.65 | 0.78 | 873 | 6.74 | 8.7 | 20.8 | | light brown, turbid, no odour/ sheen |
| 10.13 | 2 | 20.86 | 0.23 | 868 | 6.79 | 6.0 | 20.7 | | |
| 10.17 | 3 | 21.05 | 0.77 | 859 | 6.79 | 8.2 | 20.7 | | |
| 10.20 | 4 | 21.07 | 0.25 | 862 | 6.81 | 6.4 | 20.7 | | |
| 10.23 | 5 | 21.17 | 0.90 | 866 | 6.80 | 5.5 | 20.7 | | |
| 10.26 | 6 | 21.27 | 0.82 | 872 | 6.81 | 0.6 | 20.7 | | |
| 10.29 | 7 | 21.33 | 0.79 | 874 | 6.81 | -1.2 | 20.7 | | sampled |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** ESM_DH04

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: ~~QED~~ Micropurge | SWL: 21.01 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: U | Screen: From: ✓ to: ✓ m — Stick Up: ✓ m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 25 m | Ref.datum: ✓ — Well Cap Secure? Y✓ |
| Date: 18/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 33.89 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9.20 | 1 | 21.30 | ~~0~~ 0.60 | 473.4 | 6.02 | 4.9 | 21.4 | | brown, turbid, no sheen/odour |
| 9.23 | 2 | 21.32 | 0.42 | 475.6 | 6.01 | 2.6 | 21.4 | | good recharge |
| 9.26 | 3 | 21.34 | 0.41 | 474.7 | 6.03 | 2.1 | 21.4 | | |
| 9.29 | 4 | 21.37 | 0.43 | 473.6 | 6.02 | 1.4 | 21.4 | | Sampled |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

# Purging and Sampling Record

**Bore ID:** CSM_BH06

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: | SWL: 20.615 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: | Screen: From: — to: — m — Stick Up: ✓ m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth:.....m | Ref.datum: ✓ — Well Cap Secure?: Y |
| Date: 16/3/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 35.53 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 14.17 | 1.5 | 20.70 | 0.35 | 914 | 6.49 | 8.3 | 22.4 | | clear to grey, cloudy, no odour/sheen |
| 14.20 | 2.5 | 20.64 | 0.31 | 913 | 6.31 | 11.8 | 22.3 | | good recharge |
| 14.23 | 3.5 | 20.68 | 0.26 | 914 | 6.19 | 15.5 | 22.3 | | |
| 14.26 | 4.3 | 20.67 | 0.27 | 914 | 6.28 | 6.7 | 22.4 | | |
| 14.29 | 5.0 | 20.67 | 0.20 | 915 | 6.26 | 6.0 | 22.3 | | |
| 14.32 | 5.5 | 20.67 | 0.26 | 914 | 6.26 | 6.3 | 22.3 | | sampled |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

* QC01

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH08

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Micropurge (LF) | SWL: 13.63 m — Logic Check: / |
| Project: Central Station Main Works | Sample Method: b | Screen: From: / to: m — Stick Up: / m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: / — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 20 m | Ref.datum: — Well Cap Secure? Yes |
| Date: 18/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 35.01 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:27 | 1 | 13.63 | 0.35 | 416.2 | 7.42 | -42.8 | 21.1 | | Clear, no odour/sheen |
| 8:30 | 2 | 13.63 | 0.15 | 470.8 | 6.85 | -35.0 | 21.2 | | " |
| 8:33 | 3 | 13.63 | 0.00 | 497.3 | 6.63 | -32.8 | 21.2 | | " |
| 8:37 | 4 | 13.63 | 0.33 | 511 | 6.37 | -30.4 | 21.2 | | " |
| 8:40 | 5 | 13.63 | 0.06 | 513 | 6.33 | -35.3 | 21.2 | | " |
| 8:43 | 6 | 13.63 | 0.14 | 513 | 6.23 | -34.1 | 21.2 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH095

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Pen | SWL: 4.182 m — Logic Check: / |
| Project: Central Station Main Works | Sample Method: Pen | Screen: From: / to: m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: / — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 6.5 m | Ref.datum: / — Well Cap Secure? Yes |
| Date: 17/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.55 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9:23 | 0.5 | 4.36 | 0.35 | 577 | — | -6.7 | 20.0 | | Brown cloudy, no odour/sheen |
| 9:26 | 1 | 4.49 | 0.25 | 571 | — | -31.7 | 20.0 | | " |
| 9:29 | 2 | 4.50 | 0.25 | 573 | — | -59.5 | 20.0 | | " |
| 9:32 | 3 | 4.55 | 0.21 | 577 | — | -74.1 | 20.0 | | " |
| 9:35 | 4 | 4.59 | 0.19 | 571 | — | -87.7 | 20.0 | | " |
| 9:38 | 5 | 4.63 | 0.18 | 568 | — | -99.4 | 20.0 | | " |
| 9:41 | 6 | 4.68 | 0.21 | 563 | — | -105.2 | 20.0 | | " |
| 9:44 | 7 | 4.71 | 0.25 | 562 | — | -109.7 | 20.0 | | " |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

pH probe not functional.

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** CSM_BH105

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 4.050 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:..... to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 9.5 m | Ref.datum: ✓ — Well Cap Secure? Yes |
| Date: 17/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 10.00 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8:09 | 1 | 4.25 | 0.44 | 257.9 | 15.53 | -165.9 | 21.4 | | Cloudy brown, no odor/sheen |
| 8:10 | 2 | 4.40 | 0.32 | 256.5 | " | -163.3 | 21.5 | | " |
| 8:22 | 3 | 4.42 | 0.28 | 252.4 | " | -169.4 | 21.5 | | |
| 8:25 | 4 | 4.43 | 0.27 | 249.1 | " | -157.7 | 21.6 | | |
| 8:28 | 5 | 4.45 | 0.27 | 245.8 | " | -158.2 | 21.5 | | |
| 8:31 | 6 | 4.47 | 0.26 | 244.5 | " | -166.8 | 21.6 | | Sampled |
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| | | | | | | | | | Dupe taken: QC02 |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

* QC02

pH probe not working

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_DH7

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 5.360 m — Logic Check: |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: to: m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 6.0 m | Ref.datum: — Well Cap Secure? Ya |
| Date: 17/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.16 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:13 | 1 | 5.60 | 1.89 | 381.6 | ~~5~~ | 51.8 | 22.3 | | Brown cloudy, no flow/sheen |
| | Very little water / recharge, developed as part of Metro Construction. | | | | | | | | |

*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

PH probe not working

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH10

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Bladder Micropurge | SWL: 19.160 m — Logic Check: |
| Project: Central Station Main Works | Sample Method: Bladder | Screen: From: to m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 24 m | Ref.datum: — Well Cap Secure? Yes |
| Date: 18/2/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 25.00 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11.07 | 1 | 20.31 | 0.21 | 1406 | 6.39 | -145.2 | 21.5 | | bluey/grey, cloudy, organic odour |
| 11.10 | 2 | 20.60 | 0.15 | 1408 | 6.38 | -144.9 | 21.6 | | |
| 11.13 | 3 | 20.07 | 0.14 | 1409 | 6.41 | -145.3 | 21.6 | | |
| 11.16 | 4 | 21.60 | 0.45 | 1401 | 6.43 | -143.1 | 21.4 | | |
| 11.19 | 5 | 22.13 | 0.83 | 1394 | 6.47 | -141.1 | 21.5 | | |
| 11.22 | 6 | 22.47 | 1.06 | 1404 | 6.50 | -140.3 | 21.5 | | Sampled, no recharge. |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH11

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 5.060 m — Logic Check: / |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: / to: m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: / — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 7.5 m | Ref.datum: / — Well Cap Secure? Yes |
| Date: 17/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 8.09 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (uS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 11:50 | 0.5 | 5.21 | 0.38 | 328.2 | [illegible] | -268.0 | 21.5 | | Drum cloudy, no odour/sheen |
| 11:53 | 1 | 5.37 | 0.25 | 305.3 | — | -292.2 | 21.5 | | " |
| 11:56 | 2 | 5.42 | 0.30 | 300.2 | — | -300.8 | 21.4 | | " |
| 11:59 | 3 | 5.48 | 0.27 | 297.7 | — | -303.8 | 21.5 | | " |
| 12:02 | 4 | 5.55 | 0.22 | 296.9 | — | -299.7 | 21.5 | | " |
| 12:05 | 5 | 5.61 | 0.21 | 293.6 | — | -287.3 | 21.5 | | |

*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

pH probe not working

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASW_BH23

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 2.85 m — Logic Check: — |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: — m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check:..... — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 2.5 m | Ref.datum: ..... — Well Cap Secure? X |
| Date: 17/3/20 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 3.91 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 12.25 | 0.5 | 2.85 | 0.45 | 464.5 | ~ | -236.7 | 23.5 | | dark grey, clear, HC odour |
| 12.28 | 1 | 2.84 | 0.19 | 532 | - | -278.9 | 23.5 | | " |
| 12.31 | 1.5 | 2.85 | 0.15 | 552 | - | -303.0 | 23.6 | | SWL stable |
| 12.34 | 2.0 | 2.85 | 0.10 | 560 | - | -322.5 | 23.5 | | " |
| 12.37 | 2.5 | 2.85 | 0.11 | 562 | - | -327.0 | 23.6 | | " |
| 12.40 | 3.0 | 2.85 | 0.10 | 563 | ~ | -331.0 | 23.6 | | Sampled. |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

pH probe not working

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** GASV-BH25A

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 1.600 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: / to: m — Stick Up: ✓ m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 2.5 m | Ref.datum: — Well Cap Secure? Yes |
| Date: 17/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 2.935 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10:36 | 0.5 | 1.79 | 1.10 | 242.1 | — | -56.7 | 23.1 | | Grey cloudy, HC odour. |
| 10:39 | 1 | 1.88 | 1.07 | 262.1 | — | -134.9 | 23.0 | | " |
| 10:42 | 2 | 1.93 | 0.83 | 276.2 | — | -164.1 | 23.0 | | " |
| 10:45 | 3 | 1.95 | 0.68 | 288.6 | — | -182.5 | 23.0 | | " |
| 10:48 | 4 | 1.97 | 0.54 | 298.3 | — | -194.1 | 23.0 | | " |
| 10:51 | 5 | 2.02 | 0.54 | 303.3 | — | -196.5 | 23.0 | | " |
| 10:54 | 6 | 2.01 | 0.52 | 306.7 | — | -206.4 | 23.0 | | " |

*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

pH probe not working

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH047

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 3.580 m — Logic Check: / |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: / to: m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: / — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 6.5 m | Ref.datum: — Well Cap Secure? Y |
| Date: 16/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.995 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (Cu/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 9.16 | 1 | 4.515 | 1.80 | 417.1 | 7.41 | 110.9 | 20.6 | | clear, slightly cloudy, no odour/sheen |
| 9.21 | 1.7 | 4.86 | 2.43 | 413.5 | 7.42 | 109.1 | 20.7 | | |
| 9.24 | 2.3 | 5.03 | 2.58 | 411.2 | 7.41 | 108.4 | 20.7 | | |
| 9.27 | 2.8 | 5.21 | 2.88 | 408.1 | 7.40 | 108.0 | 20.7 | | |
| 9.30 | 3.4 | 5.38 | 3.12 | 403.0 | 7.38 | 107.7 | 20.7 | | |
| 9.33 | 4.0 | 5.54 | 3.30 | 394.2 | 7.37 | 107.4 | 20.7 | | |
| 9.36 | 4.5 | 5.725 | 3.55 | 3819 | 7.34 | 107.7 | 20.7 | | Sampled |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH050

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 2.335 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From:.....to..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 2.7 m | Ref.datum: ..... — Well Cap Secure? Yes |
| Date: 16/12/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 2.77 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| Very little water, grab sample taken | | | | | | | | | |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT_BH052

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 5.786 m — Logic Check: / |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: / to: m — Stick Up: m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: / — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 7.5 m | Ref.datum: / — Well Cap Secure? Y/N |
| Date: 16/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 7.915 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 8.27 | 0.5 | 6.14 | 4.86 | 300.1 | 7.18 | 119.1 | 20.5 | | clear / slightly cloudy, no odour / sheen |
| 8.30 | 1 | 6.285 | 5.05 | 276.3 | 6.83 | 119.7 | 20.4 | | |
| 8.33 | 1.5 | 6.42 | 5.25 | 274.0 | 6.68 | 120.5 | 20.5 | | |
| 8.36 | 2.0 | 6.60 | 5.40 | 269.2 | 6.53 | 121.1 | 20.5 | | |
| 8.39 | 2.5 | 6.70 | 5.58 | 263.7 | 6.37 | 121.9 | 20.6 | | |
| 8.42 | 3.0 | 6.85 | 6.01 | 258.5 | 6.19 | 125.3 | 20.6 | | Sampled. |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

Bore ID: SRTDH015

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Pej | SWL: 2.990 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: Bel | Screen: From: ..... to: ..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 6.0 m | Ref.datum: ..... — Well Cap Secure? Yes |
| Date: 6/2/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 6.00 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (mg/L) | Elec.Cond (µS/cm) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| 10.40 | 0.5 | 3.12 | 2.31 | 342.7 | 7.08 | 114.8 | 21.1 | | clear, no odour / sheen |
| 10.43 | 1 | 3.15 | 2.47 | 338.7 | 7.04 | 113.3 | 21.2 | | |
| 10.46 | 1.5 | 3.18 | 2.71 | 332.5 | 7.01 | 112.2 | 21.3 | | |
| 10.49 | 2.0 | 3.22 | 2.86 | 325.0 | 7.00 | 111.3 | 21.4 | | |
| 10.52 | 2.5 | 3.26 | 2.87 | 320.4 | 6.98 | 110.8 | 21.5 | | Sampled. |
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*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

# Purging and Sampling Record

**Bore ID:** SRT-BH060

| Job Information | Sampling Information | Bore Information |
|---|---|---|
| Client: Laing O'Rourke / Sydney Metro | Purge Method: Peri | SWL: 3.840 m — Logic Check: ✓ |
| Project: Central Station Main Works | Sample Method: Peri | Screen: From: ✓ to ..... m — Stick Up: ..... m |
| Proj. No.: 21-27234 | WQ Meter Type: YSI | NAPL Check: ✓ — Bore Diam.: 50 mm |
| Sampler: T. Nham / J. Vickers | Flow Cell: Y / N — Pump Depth: 4.2 m | Ref.datum: ✓ — Well Cap Secure? Yes |
| Date: 16/3/2020 | WLevel Meter Type: Dip / Fox / Int.Fce / Gge | Bore Depth: 4.280 m |
| Round March 2020 | Field Filtered? Y / N (filter vessel, disposable filter/syringe) | |

| Time (.....) | Volume (L) | SWL mbtoc | Dis.Oxygen (.....) | Elec.Cond (.....) | pH (pH units) | Ox-Red Pt. (± mV) | Temp (°C) | (.....) | Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry? |
|---|---|---|---|---|---|---|---|---|---|
| *Stable when (3 consecutive readings):* | | *stable* | *+/- 10%* | *+/- 3%* | *+/- 0.05 pH* | *+/- 10 mV* | - | | |
| Very little water, grab sample taken | | | | | | | | | |

*Field QA Checks:*

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

| Parameters | BTEX | TPH | PAH | CHC | PCB | OCP | OPP | Tot. Metal | Biol. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservatives | | | | | | | | | | | | | |

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

*Purge Volumes*

| Casing Int. Dia (mm) | 50 | 100 | 150 |
|---|---|---|---|
| Vol (L/m of casing) | 2.0 | 7.9 | 17.7 |

*Double for gravel pack

